THE ORNAMENTAL DRAUGHTSMAN

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ORNAMENTAL DRAUGHTSMAN AND DESIGNER

BEING A SERIES OF

PRACTICAL INSTRUCTIONS AND EXAMPLES OF FREEHAND DRAWING IN OUTLINE AND FROM THE ROUND, EXAMPLES OF DESIGN IN THE VARIOUS STYLES OF ORNAMENT ADAPTED TO PRACTICE; TOGETHER WITH A SERIES OF PRACTICAL FAPERS ON

FORM AND COLOUR,

AS APPLIED TO INDUSTRIAL DECORATION AND ART MANUFACTURES

BY SEVERAL PRACTICAL DRAUGHTSMEN AND DESIGNERS

ARRANGED BY

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With 19 Folding Plates and 75 Illustrations in Text

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The "Practical Mechanic" Series of Industrial Handbooks.

Uniform with this Volume. The Stonemason and Bricklayer. The Domestic House Flanner and Sanitary Architect. The General Machinist; or, Machine-Maker. The Building and Machine Draughtsman. The Carpenter and Joiner.

LONDON: WARD, LOCK, BOWDEN AND CO.

PREFACE.

THE art of delineating representations of the varied and evervarying objects which external Nature presents, as for example in the foliage of the tree or the petal of the flower, in giving place to the designs in the first instance, or of copies or representations of objects already made of what are generically designated as artistic, and finally in showing the various combinations of lines, curved and straight—the only two classes of lines in decorative design—has always occupied a high place in the routine of what is generally known as an artistic education.

The estimation, indeed, in which it has been held by a people, the degree of efficiency or finish which those who follow it have attained, have been often taken, and by high authorities in history, as a mark of their civilisation or that proficency in the arts at which they have arrived. Without, however, claiming for it this high position as one of the tests of social progress, one may with all safety give it a forward place in what constitutes a finished education. No system of thition can be said to be complete which does not include the art of drawing as a part-an essential and important part-of it. It is scarcely necessary to add that it is that branch or part of the general subject of drawing or delineation to which the name of "ornamental" or, as it is sometimes called, "freehand" drawing, that is here referred This is obvious from the very title of the volume to to. which these lines are the preface.

At one period in the history of the education of our people a knowledge of the art of freehand or ornamental drawing was confined almost exclusively to the wealthier classes, or to those who were intended to follow art in one or other of its branches as a profession or means of livelihood. This was the state of matters up to within a very recent period. It is indeed only within the last decade or two that the public mind has received an impetus on the subject—been impressed with the importance of communicating a knowledge at least of the principles of the art to all classes, of making it form a part of every-day education.

This new, and in every way important and useful, view of the subject has had its rise in a conviction that the art of drawing per se-a capability to use the lead pencil or the chalk crayon in delineation, in giving representations of form in all the combinations with which it is met in nature and in art with as much facility and readiness as one uses the pen in writing or in figuring-is really of great practical utility in every branch of business. It is not merely that this facility to delineate forms of objects as they actually present themselves to the eve is necessary in certain branches of business, as, for example, in the art of the industrial designer and decorator-in such cases it is simply essential-but it is that the facility "to draw" (to use the popular expression) gives a readiness to appreciate the beauty of "form" and to apply such knowledge as one acquires of it to a wide variety of useful purposes, many of which have no apparent connection with what is designated and known as art and artistic work.

But while this is true, an extension of what is involved in it should not be ignored or overlooked—and this is, that a knowledge of freehand drawing is of the greatest practical value, even to those who are studying for, or are practically engaged in, constructive work of different kinds. Thus the

PREFACE.

engineer, the machinist, or the carpenter and builder, will find a knowledge of freehand drawing calculated to aid his work in the most directly practical of ways. It may indeed be said with perfect accuracy that the conviction of this truth will forward the purely constructive work of these branches of industrial technical work in a way much more direct and practical than could at one time have been conceived likely even by the most sanguine of those who a few years ago began to advocate the extension of a knowledge of freehand drawing amongst all classes engaged in technical work. It is of course quite unnecessary to note that a knowledge of freehand or ornamental drawing is absolutely essential to the Architect, and should in no case be neglected by those who—as practical builders, masons, carpenters, joiners—desire to gain this the higher position in the art and science of architecture.

As regards the character of the present volume, and the principle upon which its matter has been prepared and its examples selected, little is needed to be said more than this : ---That the leading principle is the beginning with the simpler lines and combinations of lines ; each example, or lesson as it may be termed, is so designed specially as to lead up to the example or lesson next in succession. Thus each advanced lesson cannot be mastered until the pupil or draughtsman has thoroughly understood and been able to draw the lines which make up the example immediately preceding. The pupil is thus led up by a regular gradation of lessons or examples from the simplest to the most complicated of subjects ; and having thus a foundation, he is able to build up, so to say, with security and certainty of result the more important departments of his study and practice.

This principle is carried out in every department or series of lessons, and is rigidly insisted upon as being essential to • be followed if satisfactory progress be deemed desirable. In addition to the lessons and examples of ornamental and

decorative work-all of which are designed upon the leading principle above noted-it has been deemed advisable to add a section illustrating the important department of "Form and Colour applied to Industrial Decoration." Here, again, the same principle is rigidly adhered to, of "beginning at the begin-ning," and "laying a foundation" upon which all the examples and lessons are based. In addition to the large number of illustrations given along with the text, a series of plates, containing a very wide range of examples of ornamental drawing, is given. These, together with the matter given in the text and the remarks on colour, make up a volume which, for richness of illustration and for the fulness and the clearness of its instructions, will be found, the Editor ventures to hope, of the greatest practical, business-like utility to the numerous classes to which a knowledge of freehand or ornamental drawing is essential, as well as to the perhaps still larger section of those who are being educated in what is known generally as a liberal education, to whom, as we have shown, a facility to delineate objects of all kinds is at once attractive and useful.

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THE ORNAMENTAL DRAUGHTSMAN.

Introductory.

IT is only of late years that the art of Ornamental Drawing has taken a place as one of the departments of technical work; or rather. as it may perhaps be the more accurate way to put it, as an indispensable adjunct to certain branches of the technical arts and manufactures, tending by its services to add that high value to their products which correct *design* is so well calculated to ensure. Nor need this be much matter of surprise, for it is in truth only of late years that what for lack of a better term, is called technical work has occupied a well defined position, as one of the factors which go to make up the sum of those national industries which minister so markedly to the national wealth, and the comfort and the luxury of our people. The term "design" here used may be, and is in its fullest sense, applicable to all branches of industrial work, for where there is anything to be made its making is obviously dependent upon design of some kind. And design in its strictest sense is, as its name indeed denotes, the product of mind as applied to the doing of any kind of work. To all the constructive arts design is absolutely essential, as in the making of a machine, the building of a house, or in the construction of its furniture. But the term "design" is in all those cases used here in its restricted—some may say its widest-sense. But it is restricted in so far as it really is applied to the purposes of construction only. The machine might be designed and constructed to work well; the house built so that one might live "comfortably" in it; the chairs might be made to sit upon, after some fashion, easy or uneasy as the case might be; the tables to sit at and eat from, or do designing work upon; and the beds might suffice to give sound sleep. And yet of each and of all it might be said that in no sense were they good for the artistic taste to dwell, nor pleasant for the artistic eye to look upon. In brief, a construction might serve its purpose and be in very truth well "designed," so far as that purpose was directly concerned; but

might notwithstanding be as ugly as could well be. Or, to use the common expression, any one looking at the construction would almost intuitively or instinctively say, that it had "no beauty"—that it was not "beautiful." The term construction here used is applicable to an enormously wide variety of objects and things—to everything, indeed, "made" and fashioned by the patience, the skill, and the energy of man. Now, when we come to take up the canons or rules of art, we shall find that all—even authorities presumed or assumed to be, or in reality such—are by no means agreed as to the definition of the term "beauty," or in other words, what constitutes the "beautiful."

Design in its Technical Sense.

We here use the term "art" in its more restricted sense, as concerned only with objects directly produced by one or other of the branches of trades, manufactures, or businesses now flourishing amongst us; and as only in the remote sense connected with what may be called high or pure art-in which imagination or fancy gives birth to a conception which is recorded in what we call a painting. picture, or drawing,-whether it be an inanimate subject, as a landscape, or representative of some phase of life. In this restricted sense the term "design," receiving or having given to it a definite phrase or a technical term, may be, as it has been and often is, called Ornamented or Ornamental Construction. We shall see here after that there may be other terms by which the branch of technical study to which this and succeeding chapters under our general title will be devoted may be defined. For present purposes the name here given as definitive of what ornamental drawing is, or the duties of the ornamental draughtsman are, will be sufficiently clear and explicit, as conveying even to the popular mind a fair conception of them.

Ornament—Ornamental Construction.

For there are but few who, if they could not explain what they understand by the term "ornament," certainly can do so quite well enough for their own satisfaction. And although, like the terms "beauty" and "beautiful" above alluded to, those of "ornament" and "ornamental" are not definite and precise, but rather relative and conventional, so that different definitions will be given by different minds,—still there is with nearly all a point or points at which one object can be said to be ornamental, or at least to possess some claims to it, and another that it is not. Nearly every one knows pretty clearly what is meant to be conveyed by the word ornament; everywhere one hears the phrase, "that is no ornament"; and although no two would probably agree as to what true ornament is, they would have no disparity of opinion as to the truth or fallacy of the application of the term to any object. A tub, for example, or a barrel, few would pronounce to be an ornamental article; but another vessel—to hold an equal quantity of water or beer—could be made of such a form that it would at once be pronounced ornamental. And this although two, agreeing thus far, might never agree as to any standard which each might set up by which he judged of the relative purity of the ornamented or ornamental form of the newly "designed" vessel. Ample illustrations of these remarks will be found in succeeding paragraphs of the present subject; but enough has been given by way of introduction to it.

The Art of Ornamented or Ornamental Construction, or the Technical Department of Art Manufactures, of but Recent Introduction.

The art, as a branch of technical study, had no practical existence but a few years—comparatively—ago. It is difficult, if indeed it be really possible, to point out, not half a dozen, but three or four branches of arts and manufactures, in which there was, we do not say an honest attempt made, but a thoroughly practical and successful system in existence by which ornamental design was applied, two or three generations ago. The period at which the new and vastly improved state of things was begun dated from or about the opening of the Great Exhibition of 1851—a generation ago, or a little more. Then almost every branch of our arts and manufactures was simply waiting to obtain all the advantages which the ornamental draughtsman and designer was able to impart to it.

Sundry Considerations affecting the Work of the Ornamental Draughtsman.

Before proceeding to give our remarks on the principles of ornamental drawing, and the details of its practice, we deem it right to place before the student sundry considerations respecting the Art of Drawing in its widest sense. This to the superficial reader, who merely glances at the few pages which are to follow may appear to be, on the contrary to this, but a very limited sense; being apparently applicable to the general artist, or as he is sometimes called the painter of the ordinary class of works of art termed pictures, whether those of landscape, historical, or figure subjects, or of both.

Essential Importance of Mastering the Elements of Ornamental Drawing.

It is a very trite and commonplace thing to say that there can be no sound building without a sure foundation. Still the lesson which this conveys is not seldom lost sight of in everyday work. And

while the truth of that other saying, that it is best in any work to begin at the beginning, is not disputed by any one, still we fear that its lesson is also sometimes overlooked by those who begin the study of Ornamental Drawing. It is quite necessary that we should become thoroughly grounded in the first principles of this particular branch of the art, if we intend to develop our knowledge of it with any satisfaction to ourselves, or with any reasonable hope of ultimate The practice of "skimming "over the elements upon which success. alone true progress is based, is, we hope, unknown to the readers whom we are addressing. He who would attempt to study Euclid without first understanding the definitions, postulates and axiomshe who would design a bridge without taking the foundations into account-he who would become a chemist without an acquaintance with the bases of chemical combinations-is just the kind of man whom we should expect to hope to become an ornamental draughtsman with a contempt for the elements of design. Certainly not more senseless would such a man be, than the young ornamental draughtsman who refuses to do so much of downright beginning or elementary work as is necessary to enable him to draw lines and curves with equal facility and accuracy. We shall emphatically insist upon the general truth of this principle all the way through this paper-namely, that which costs one nothing is worth nothing, and that the value of a victory is to be estimated by its difficulty of accomplishment.

The Lines of every Form, whether in Nature or in Art, reducible to two.

Has it ever occurred to the young ornamental draughtsman that all the forms and combinations of forms, whether in nature or in art, are bounded or terminated by two kinds of lines *only*, one straight, the other curved ! It is exactly with drawing as it is with every other art or science which can boast of anything like method or system, that there are certain great central principles which give birth to others; and these in their turn, being generative, produce what we may call principlets, and so on *ad infinitum*. One leading or certain leading principles lies or lie at the root of any science, and every principlet of the complete system springs either directly or through ascending steps of various degrees of removal from this or from those principles. So is it true that every form, in every department of drawing, whether figure, landscape, ornamental, architectural, or geometrical, however complicated that form may be, is reducible to the two classes of lines, straight and curved.

Ability to draw accurately the Two Classes of Lines essential to the Young Draughtsman,

But the great fact for the young ornamental draughtsman to consider as a truth is the one at which we hinted in our opening remarks-namely, that it is imperatively necessary that he he able to draw these lines with something like mathematical accuracy, and that he learn to do this at the very threshold or outset of his career as artist or draughtsman. To imitate with decision and firmness any object placed before him, or to "body forth the forms of things," to know the right kind of line to employ, and to be able to employ it, is quite essential. It is this fact which gives to such systems of drawing as the one which Kumpa of Dresden claims with charming simplicity to have been the first to introduce, their value and weighty significance. It is the importance of this which alone excuses and explains the dry drudgery to which most art students are subjected in the beginning of their study. It is this complete mastery of manipulative obstacles which we especially insist on ; and we earnestly desire the student, through consideration for his own interests, not to advance one single step up the ladder until he finds his foot firmly placed on the one below.

• The Materials employed in Ornamental Drawing—The "Tools" of the Draughtsman in his Earliest or Elementary Work—Different Materials and the Methods of using them explained—Slate and Pencil System.

It is here necessary that we should say a few words on the materials which it will be advisable to use in commencing operations, before we proceed to our more specific instructions. This is a point of much importance, and as it has created some difference of opinion, it may be well for us to present the notions of various authorities on the point, and afterwards state which we think best.

Herr Kumpa, of Dresden, to whom we have just referred, recommends the pupil to use, in his first attempts, either a slate and pencil or cheap cartridge paper and charcoal. The advantages of the slateand-pencil plan are, that after the small first cost, the expense is practically nothing, and that mistakes are quickly and easily rectifiable. Two-pennyworth of slate-pencil, rightly used, will suffice—it is claimed for this system—to make a man a finished ornamental draughtsman, whilst the errors can be more rapidly erased than committed. One seeming disadvantage of this plan is, that the permanence of the drawing is entirely out of question. We have said disadvantage, but it is more than questionable whether this should not be included amongst the advantages. For the youthful ornamental draughtsman may rest assured, that for quite a long time to come he will not be able to draw anything worth keeping. His efforts will be weak, wavering, and wilful, and the permanence of things possessing such characteristics is an evil under the sun. Preserving first drawings, then, is by no means a very desirable proceeding; and it is one of the finest habits a man (whether artist or not) can get, to use an eraser, when necessary, without flinching. There is, however, always something, if not much, to be said on both sides of a question. And there is this advantage in keeping the efforts in drawing from the beginning,-that they afford, as it were, a record of results at various stages, and in this way admit of comparative observations being made as to progress. We know, as the saying is, of "no end" of cases where "copies" of all work are kept. Indeed, we may question if this be not the rule amongst the best masters of schools of art throughout the United Kingdom. But perhaps a real drawback to the use of a slate may be found in the fact that the transition from slate to paper is not of the easiest; and as in practical working, drawings will be on the latter material, it is decidedly better to become accustomed to use it as early as possible. One has, after all, to deal with paper ultimately, so one may as well get over any difficulty as to its use at the beginning -indeed, better, as time is in reality gained. For there is but little practical use in learning to use materials which are not, and indeed from their nature cannot be, employed in the after practice of ordinary work.

The Cheap Cartridge Paper and Charcoal Pencil or Crayon System for Elementary or Groundwork Lessons in Ornamental Drawing.

The charcoal-and-paper plan next claims attention. Mr. George Wallis and also Herr Kumpa are at one in recommending the student to adopt this method. Herr Kumpa tells us that "The student should be supplied with paper of a coarse description. The pencils should be charcoal, which has the double advantage of marking with a small pressure, and of being easily obliterated, by which the pupil is compelled to a light and free touch, and much paper will be saved." Mr. Wallis says, "I approve of the charcoal upon paper." We would, however, advise the beginner in ornamental drawing to be careful how he follows the course recommended by our Dresden authority-at least for the reason he gives. The use of charcoal, he affirms, will compel the draughtsman to a "light and free touch." Now, if one could make anything like a reasonable calculation of the miles of good drawing-paper which have been wasted by "light and free touches," it would make one pause before acting upon Kumpa's advice. The reader, who is here supposed to have some knowledge of the art of ornamental or freehand drawing, has most probably been requested at times to pass an opinion on the portfolio sketches and "finished" pictures of amateur artists. If his views of faithfulness in painting have in anywise coincided with those expressed by good authorities,-if he has come to regard it as an art, in the practice of which downright toil and immense experience are essentials to success,---if, in short, he has begun to estimate the value of a picture by its nobleness of conception, and the amount of earnest labour expended upon it, he will remember the pain with which he witnessed the mortification of his amateur friends when he has tacitly condemned their "light and free" compositions by abstaining from passing judgment upon them. Do not let us be misunderstood here. "Lightness" and "freedom" of touch, when they are the result of perfect mastery over the pencil,-a mastery which is only to be acquired by long continued and painfully concentrated effort,-are admirable. Let an artist give the "lightness" and "freedom" of a Gainsborough every kind of praise, by all means; for of him Ruskin has said, "His stroke was as light as the sweep of a cloud, as swift as the flash of a sunbeam." But when these things are said to be characteristics of the drawing or painting of one whose experience is bounded, say by that of a couple of years, one may very safely, as a general rule, condemn them and the system of which they are the result. So that one may with some degree of prudence refuse to adopt a material which promises "lightness and freedom" of touch without that perfect mastery over the pencil above alluded to; and which, as a rule, can be got only by heavy struggle and years of difficulty. But perhaps, after all, Kumpa has been unintentionally overlooking the disadvantages arising from the use of charcoal. The fault lies partly in his erroneous statement; but, we are bound to say, partly likewise in the material he recommends. Its peculiar softness and friability may fit it for rough sketches of subjects which have to be worked up in another material; but for the student to begin using it at the outset of his attempts at line-drawing is not only "too rash, too unadvised, too sudden," but it appears to us to be a pretty certain road to artistic weakness in work.

The Pen-and-Ink and Scrap-Paper System for Elementary Work of the . Ornamental Dranghtsman.

The plan which Mr. Ruskin recommends differs widely from the other two. He advises the student to supply himself with pen and ink and any old scraps of paper within his reach. In this advice may be traced, we think, the influence of some of Ruskin's noble

principles of thought. "Let us have," we can fancy him saying, "the definite, the clear, the indubitable; give us truth direct and unmistakable; but in nowise, good friends, forget that man has a weird strange soul within him, which will grope, it may be blindly enough, but will grope, nevertheless, after the infinite. Remember this, in all things, courteous student. Choose pen and ink for clear blackness and clear whiteness. Choose them, likewise, for minuteness and mystery." Now, we have tried this plan of Ruskin's with something more of application than we have bestowed upon the two previously mentioned, and it needed but slight experience to convince us that it was immeasurably superior to either the slate or the charcoal and paper. It is surprising to some who give this method a fair trial for the first time to note how definiteness and delicacy are within the limits of the pen's capability. It possesses wondrous power of subtlety and mysterious refinement. The slightest shades of meaning, so to say, in lines, are within its power of expression, and in this most important respect the other two plans will not bear with it a moment's comparison. And the expense is next to nothing. We think very highly indeed of Mr. Ruskin's system, and commend it to the careful consideration of the student.

The Black-lead Pencil and Drawing Paper System for Beginners in Ornamental Drawing.

The good old-fashioned plan of black-lead pencil and paper we shall treat of lastly. These are the materials which we suppose some of our oldest readers, "whose heads are growing grey," used when learning to draw at school in their early days. One can recollect how the miserable trifles of well-thumbed "drawing copies"---the only ones obtainable by the pupil in those times when the "press" had done so little-were handed round without much reference to individual capacity or idiosyncrasies. With reference to this blacklead pencil plan, we may say that our opinion is favourable ; but that in those characteristics which we have named as belonging to the pen, it fails to attain to the pen's excellence of flowing softness and distinctness. Now, the plan we would recommend the pupil to adopt in the study of ornamental drawing is that in the earlier stages of practice the black-lead pencil should be used, till some firmness and facility of execution or handling be attained. This, however, does not prevent the pupil from using the pen and ink afterwards, when greater subtlety and intricacy are required than are expressible by this material. He will, of course, accustom himself to the use of pen and ink, whilst at the same period of his practice he is also busy with making the curves and lines in black-lead. Let progress in

the mastery of the two be carried on simultaneously-that is, if the two be used.

The Kind or Class of Materials the Student is to be provided with.

The pupil is supposed to have provided himself with an F or H B black-lead pencil-costing from one penny up to fourpence or sixpence, according to quality-a sheet of cartridge-paper, which may be had for twopence, and a small drawing-board, the cost of which need not be even a shilling, or at the most eighteenpence. The cartridge-paper is stretched on the board after the following fashion :---Damp the paper on both sides with a sponge dipped in quite clear water, and afterwards smear a little common glue, or strong dissolved gum arabic, along the edges, about half an inch in width. Lay the paper, after it is again surface-dry, on the board; and place it thereon exactly square, or as nearly so as possible, and then with a sponge press it gently down on the board. Let it lie, then, for say a couple of hours, when the paper will be found dry, stretched, and ready for use.

First Lesson in the Drawing or the Copying of Straight Lines-Vertical Lines.

Here the pupil is expected to copy these five lines precisely and exactly as they are set down in fig. 1. A difficult task, undoubtedly; but also, we may say for his comfort, by no means an utterly hopeless one. Let the board before the pupil be on a table, raised to an angle of 30° if the pupil sits down; or if he stands up placed upon an easel, which he can easily make for himself. Then, with a pencil tolerably finely sharpened, let him commence operations.

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Let him measure with the eye, quite calmly and deliberately, the length of the line a b, fig. 1, and try, with "all his mind set in his fingers," to make one like it. Then, after the same fashion, let 1 i i him calculate the distance between a b and its right-hand neighbour The pupil should then draw this second line in the same way, c d. and proceed thus until he has managed to get through the whole figure. Now let him set the original and the copy together, and make a minute and searching comparison between them. He will most likely discover immediately a difference in the sizes of the figures as wholes. The pupil has either estimated the length of the line a b incorrectly, or the distance from a to c may be wrongly h calculated, or very probably both of these faults are to be found in Then let the pupil notice how very inaccurately he the drawing. has mentally measured the amount of space between the lines indi-If he takes a pair of spring-dividers to test these disvidually. tances, he will perhaps find the space between the first two lines 81

greater by a fourth than that between the fourth and fifth. And let him observe, again, how much he has failed in attaining to the parallelism of the lines with the edge of his drawing-board or cartridge-sheet. The first one, for example, he discovers to be anything but strictly perpendicular. It has a somewhat decided tendency to incline a "leetle" too much either to right or left. He will notice, like-wise, that instead of being parallel with each other, no two of the lines can with any amount of strictness be called so. For the meaning of the term parallel see the work on "The Geometrical Draughtsman." In his copy the line e f may have some inclination towards g h or c d. In the original none of these faults exist: not only are the lines vertical, but they are parallel to one another.



The pupil should here note that we use the term "vertical" with a purpose—a position of the line which is practically unvarying making a special distinction, which is absolutely essential to be made, between this term and that known as perpendicular. For it is often the case, even with those who ought to know better, that these terms are used by them as being identical or meaning the same thing, which assuredly they do not. A line may be perpendicular to another line, yet that perpendicular line be horizontal—a statement which, although it may appear odd to some, is nevertheless absolutely true; just as a line may be perpendicular to another, and yet that other line may go in *any direction*. For a further exposition of this, and other like terms, the reader is again referred to the work "The Geometrical Draughtsman." Let the draughtsman look, finally, at the unsteadiness and weakness of the whole five as *straight* lines: we may suppose that a b gives way in the centre; cd begins with a slight curve, straight in the centre, and curved again at the end; ef may be worse, and ghno better. And so on to the end of the lesson—wilfulness, inaccuracy, imperfection, from beginning to its end. Do not let the pupil at this point be gnilty of throwing down his pencil and putting aside his drawing-board, either in disgust or vexation. Certainly, we admit that the examination of his first attempt has been most disheartening. It is hard enough to be conscious of weakness generally, without having all the particulars of that weakness thrust before one's eyes. Let him rest assured that the right fashion of mending matters in this case is boldly to try again. He may take heart at



Fig. 2.

being disheartened, for consciousness of weakness is really a step towards strength—a somewhat paradoxical statement, the truth of which youth and inexperience have great difficulty in believing. Let the beginner remember that the thing he has set himself down to do demands, as we have all along told him, dogged determination, and purposeful, thorough, conquering labour. Excellence is attainable; but he may rest quite confident that an ocean of downheartedness will never fill one cup full of success. Let him start again, and yet again; let the extent of his wishes be the measure of his efforts, and triumph is certain.

Second Lesson in the Drawing or the Copying of Straight Lines—Horizontal Lines.

We pass on to fig. 2. The pupil will observe that its construction is exactly similar in all points to that of fig. 1, except that in this case the lines are *horizontal*. The instructions which were given for the drawing of fig. 1 apply to fig. 2, and a severe examination of this latter lesson is to be carried on, after the manner in which the former was criticized. The pupil should with all honesty and faithfulness test every line, until by repeated efforts his eye has become honest and faithful likewise, and his hand firm, powerful, and delicate. He will of course notice in these two figures the small arrows. These indicate the direction in which the lines are to be drawn. He may, in the first figure, draw the first three lines from top to bottom, the others may be drawn from bottom to top; and in fig. 2, in like



Fig. 3.

manner, the top three lines from left to right, the lower two from right to left Let him be careful, if he does no more, to do at least as much "as is set down for him," and in no wise neglect to practise the drawing of the figures after the directions given.

Third Lesson in the Drawing or the Copying of Straight Lines-Angular, Sloping or Oblique Lines.

We suppose now that the student has been grinding away at these figures, until he has attained to such power and truth of manipulation as will enable him to draw figs. 1 and 2, or subjects of precisely the same character, with some degree of certainty and accuracy. He has toiled away, mayhap, until his hand has been tired and his brain weary; but let him look at the result which he has attained. He can, as the result of his patient labour, draw a perpendicular line. He can likewise draw a horizontal line. He has a pretty correct notion of length. He can, to some extent at least, calculate the distance between two or more points. He has, in short, laid well and firmly the foundation of ornamental drawing, and the toil attending his efforts has been far more than compensated for by the increased power of his hand and eye. He should look at



the fact that all the figures do not possess for him the slightest difficulty of imitation, and of course as much may be said of all the infinite combinations of straight lines.

We shall now take figs. 3 and 4. The pupil will observe that the lines in these figures are not parallel in either case with the edges of his drawing-board, but incline at an angle. This, however, will offer no great difficulty. He can draw a straight line, and the direction of that line is a matter of but subordinate consideration. Let not, however, the knowledge of his being able to do this have any influence towards lessening the concentration of his efforts towards the doing of the work of this special lesson well. Let him always keep clearly before him the fact that this work he is about is anything but easy work, and that his triumph will be measured by the constancy of his toil. He will carefully observe to draw the first three lines in figs. 3 and 4 in the direction of the downwardpointing arrows; the last two in either case vice versa. Let him be sure, likewise, that the acuteness or obtuseness of the angles with the perpendicular edge of the drawing-board is correct. Let him



r1g. 5.

carefully compare his copy with the original, and let him master every figure before he proceeds to the next.

Important Point to be considered by the Student at this Stage of his Elementary Work.

At this stage we would insist upon the pupil remembering this important consideration: that it is not the number of copies which he may finish which will indicate progress, but the manner in which they are finished. If he cannot firmly draw a straight line, let him work at it until he can,—there is nothing gained by doing a dozen copies in a careless or slovenly manner, but the great gain in being able to draw a straight line correctly in any direction, a student cannot over-estimate, and the drawing or working power which it gives him is difficult also to exaggerate. Therefore if he master this, the first step, well, all that follows will become the easier. Yet do not let him for a moment think that we underrate the difficulties that are to be overcome in learning to draw curved lines; we only wish to impress this fact, that they will become easier from



having mastered the difficulties of drawing straight ones. He will also see that the insistence on a habit of strict observation is laying down a basis on which his whole after studies depend. He must remember that to educate the hand to draw and the eye to see any object correctly takes a long time of very careful practice and observation.

Fourth Lesson in the Drawing or the Copying of Straight Lines-Combinations of the Classes of Lines of the Three Preceding Lessons.

A new combination involving points of practice of great importance to the pupil is illustrated in figs. 5 and 6. In those all the elementary lines already given are combined in simple forms. Let

the pupil draw fig. 5, keeping the drawing in one position, and change the position of the hand to suit the different directions of the lines. The same remarks apply to fig. 6. The reader will have observed that a certain part of the above is *italicised*-"in one position." The point here involved is one of considerable importance in the practice of drawing. It may be assumed as true that while one draughtsman has a readier facility to draw a line in one direction than another draughtsman has, the latter may be able to draw with accuracy a line in quite another direction. In either case the draughtsman will be tempted to place his drawing or copy in positions, as he proceeds with different parts of his drawing, which will enable him to follow that direction in which he can most easily draw the line. But, seeing that one of the results of his practice is that he should be able to draw with equal facility lines in different directions, this method of meeting the case is vitally wrong. He must place his copy precisely in the same position as shown in the figure-as in figs. 5 and 6-he is copying from. This is what honest, conscientious work demands of him.

And we trust that he will now here see the importance of drawing straight lines, as the examples which follow from figs. 7 to 17 are illustrations of the application of this class of lines to ornamental purposes. Fig. 7, the zigzag, is the "Egyptian" mode of representing water, and this figure is used at a more acute angle in decorating the columns and capitals of their temples, and later it was used for the same purpose by the Greeks. All these applications will be pointed out in their proper places.

Examples of Straight-lined Figures—Elements of Ornamentation or Artistic Decoration.

Fig. 8 is a simple fret or labyrinth; this ornament is used in most antique styles by the Egyptians and the Greeks; the Japanese and Chinese also use it. The Greeks used it in a very elaborate way, as will be seen in the accompanying figures, 10, 11, 12 and 13. The fret in fig. 9 is wholly made up of straight lines vertically disposed. The fret in fig. 13 is more elaborate, and introduces a new feature —namely, the panel—as at a a. The pupil will observe that in some of the ornamental arrangements the lines are vertical and horizontal, whilst in others they are oblique. Should the student extend his studies into the history of ornamental art, he will find there a mine of interesting information; and using the term wit in the sense in which Burns uses it, we can assure him

> "There's wit there, ye'll get there, You'll find nae ither where."



Bearing this fact in mind, and for example that the history and habits of the Egyptians are written in their arts, one can see in their picture writing a history more clearly shown than words could explain.



In figs. 10, 11 and 12 the pupil will observe that in the frets there illustrated the lines are at right angles, as the line $a \ b$ to $b \ e$, or $d \ c$ to $c \ f$. But in figs. 14, 15 and 16 the lines are oblique,



and in fig. 17 the lines cross. These frets, in ancient or classical art, are as a rule met with as a painted decoration; it is only excep-



tionally that they are used in cut or sculptured forms. The frets are used as an ornament in all antique styles, but those we have given are from the Greek. The Chinese use the frets as an ornament very extensively in their bamboo or cane work.

Importance of Straight-line Drawing to the Ornamental Draughtsman.

And now we have gone with the pupil through these most important subjects. The early ones may be said to be the essential, as they form the basis of the practice of ornamental drawing; but in another sense the succeeding drawings are essential also, for they constitute the basis of ornamental art, distinguished from what may be, and is correctly enough, termed pictorial art. And this work we have done, we trust, with a fair degree of honest and earnest endeavour to do it satisfactorily—that is, usefully to the pupil. He has had the purpose of those drawings laid before him, and their



Fig. 13.

characteristics explained. With some little interest in his success, we have put before him the inducements for studying their peculiarities, and have not concealed from him the fact that those difficulties are considerable. For it is certain that the men who have the power to draw a straight line with absolute accuracy are, like the proverbial angels' visits, "few and far hetween." Many artists are woefully deficient in this direction. Line-drawing is not attended to with one-half of the assiduity that it should be. A student here and there begins to play with shade and colour, and sneers at stories about Prout's straight line or Giotto's circle. Nothing will then satisfy him but wonderful effects in *chiaroscuro*, or glaring "Venices" with impossible skies, Naples yellow and purple-red buildings, and



golden boats on emerald-green waters, etc., etc. The youngster may, perhaps, by some good piece of fortune, at last find out his foolish-



ness and error, and the only possibility of artistic salvation for him is a return to such work as this—namely, the figures now before him.

We cannot say too much on the importance of the student attend-

e cannot say too much of	i one importance or the sourcent about.
	ing to the simple subjects we have
	given. In all seriousness we advise the
a/1	pupil not to leave this first series of
-1	lessons for the next until he has mas-
	tered them thoroughly. Let him bear
	in mind the lesson conveyed in the
	adage. "Fear in argument the man of
	one book." Equally may he fear in
	execution the man of one accomplish-
1)	ment. The great ornamental draughts-
1	man, simply as such, is he who can
N I	drawnerfectlystraight and curved lines.
N'	and both of them equally well
X	The student will at once perceive the
N	chieft of these illustrations now to be
1	riven They are intended to give or
, \	amples of aurual lines and amples
	amples of carriets and surved lines
· \	include in the main of the second straight and curved times
, \	comornea, just as the previous figures
1	commenced with straight lines. The
	nrst ngures, he will notice, are of the
	simplest character. They gradually
· · · · · · · · · · · · · · · · · · ·	assume greater complexity, until, in
	the last, he has examples of no ordi-
	nary difficulty set him. Observe how
· · · · · · · · · · · · · · · · · · ·	almost imperceptibly such difficulty
	increases from figure to figure, the
	intention of which slow development
	he will of course, or should, understand.
t 🕴	Lessons in the Drewing or the Conving of
I J	Curved Lines-Some Considerations con-
, <i>1</i>	nected with them.
J.	In the preceding paragraphs we gave
	various lessons in the drawing of
' /	straight lines, and illustrations of their
I /	application to the simpler forms of
	ornamentation in different known and
	accepted "styles," by which name the
_6 /	various classes are distinguished Wo
Fig. 18.	with the stabbob are unsuing unslied. We

lines; and in this, as in the simpler lessons of the earliest stages in the art, we would impress upon the pupil the importance of mastering


Hastily-done is almost certain to be badly-done work, and he must

have a strangely constituted mind who would look upon this as the desired-for result of any labour. The Romans had a proverb which somewhat paradoxically declared that progress was all the quicker the slower it was made. The same lesson is taught us in our own proverb, "Slow and sure," or "Slow and steady wins the day." And the lesson these sayings teach us, as well as the experience of all who have succeeded in life—of which, indeed, those proverbs are but the concrete experience, embodying as so many of our proverbs do, the wisdom of ages, or generations—is simply this, that patient



Fig. 20.

work is necessary to the accomplishment of good work. And the more that patience is exercised, and the longer, therefore, the time taken in learning to do work *well*, the greater is the facility with which the good work is done, and in proportion the less demand there is made for the exercise of patience and the outlay of time. It is thus, and only thus, that true dexterity in the doing of any work is obtained. And in this truth the pupil should take comfort, if comfort he needs, in view of what claim work will make upon him for patience in learning to do it well. For he will find that each step carefully and firmly taken will give him precisely the strength he requires to take the next and more difficult one. The young blacksmith's arm becomes the stronger the more he wields the heavy iron hammer, till at last it becomes as if its muscles were themselves bars or rods of iron, capable of showering down blows fierce and long, sustained in a way which he himself in his beginnings could scarcely have believed possible. So in like manner, although his work is as delicate as that of the other is forcible, will the young draughtsman find that the longer he practises in the right way, the easier will his practice become, till at last he becomes a "deft and clever workman, worthy of his work and of his hire." We say, "in the right way," for if not, progress is just so much time wasted, leading him, as every step of it must lead him, farther and farther away from the point he wishes so much to reach. The art of the ornamental draughtsman, like every other work to be done, has its apprentice period; and if the pupil earnestly make up his mind to face what is called the "drudgery of 'prentice life," with a determination to do it cheerfully and well, he will find that it is no drudgery at all, but a mere necessity of the work—as little to be called drudgery, seeing it is the very basis of all higher work, as the foundation of a building is to be pronounced unnecessary or useless, since it is out of sight and is the first part of the work which has been done.

Such considerations, and the thoughts to which they ought to give rise, are of the utmost value to the art pupil. We do not for a moment conceive that any of our readers have that unfortunate constitution of mind we have alluded to, which permits them willingly to accept of bad work as a necessary result of labour, or to be satisfied with it when it is done. Few indeed have their judgment so warped or their minds so filed ("For Banquo's issue have I filed my mind"-Shakespeare in Macbeth) as this. Still one may have his morale not thus debased, indeed, have it high and pure, and yet be tempted, in his haste to be a successful ornamental draughtsman, to overlook or overrun those wise and prudent precautions by which alone success can be won. What, however, we have here and elsewhere said, should be enough to show him how this danger can be avoided; and avoid it he must if he wishes to be a successful and useful draughts-For success now-a-days more than ever is only measured by man. the extent of its utility.

First Lesson in the Drawing or the Copying of Curved Lines.

In commencing our lessons on curved lines, let us take fig. 18 in hand. One simple-looking curve enough here, certainly: as simple as the pot-hooks and hangers of our schooldays. But in no case will it be prudent for the young ornamental draughtsman to regard them as so easy of imitation that he may sensibly "slur" over them. His experience of the subjects in figs. 1 to 6 (straight lincs) will



have given him some notion of the difficulty of copying seemingly "simple" examples; and it is therefore, we hope, unnecessary to caution him here against shirking the faithful drawing of what we place before him in this figure.

With great care, then, let him try to copy the curve in fig. 18, Set about the work slowly. "Do not fancy"-let starting at a. us say to him-"that you can draw that curve with a dash of the pencil, like the pen-and-ink flourish of a writing-master. The figure you are copying was not drawn so. Keep the whole bend of the line in your eye, and as you deliberately progress towards b compare strictly what you are doing with the beginning of the curve, as well as with the original." It is absolutely certain, though, despite all the students pains, that his first copy will not bear for a moment the severe scrutiny to which, in accordance with the instructions given concerning figs. 1 to 6, it will be subjected. But the habit of dogged perseverance, which frowns down all difficulties and tramples down all obstacles, will soon teach him the direction in which success lies. It has been said by a deep thinker that "there is no such thing in this universe as genius, in the common acceptation of the word. Profound skill in anything is impossible without downright hard work. The philosophy on this matter is synonymous with that of one who said, 'Genius is the transcendent power of taking trouble.'"

Second Lesson in the Drawing or the Copying of Curved Lines.

The curves in fig. 19 the young ornamental draughtsman will draw and criticise after the same fashion, remembering, however, to begin at the top; figs. 18 and 19 being formed on exactly the same principle, and being, in a measure, the same curves, but standing differently related to the edge of the sheet. . Fig. 20 is a lesson on the same direction of curve as in fig. 18, and the lines of it are related to each other as in fig. 19, but joined at foot by a convex curved line as shown. The dotted lines in these three figures, as also in figs. 21 and 22, show how straight lines may be put in by which the pupil may, as it were, "chalk" out the leading lengths, etc., of the curved lines. These test lines, as they may be called. are of course to be put in, in the lightest pencil line, and their relations to each other must in all cases be decided by the eye. This accurate estimation of lengths or spaces is one of the things first to be learned by the pupil. But upon this point we have already enlarged.

Third Lesson in the Drawing or the Copying of Curved Lines.

Fig. 21 is an illustration of a different order of curved line. In copying this the pupil should first draw a light line corresponding to the dotted line a b; and on this, estimating with the eye as accurately as he can, giving to the depth a b of the figure, the distance b a—and through point a, of course at right angles to a b, draw a line c d, estimating, again by the eye alone, the width of the

curve of figure at top; half of this is set off, on each side equally of the point a, to c and d. The pupil is now prepared to put in the curves. The first put in is that to the left hand, beginning at the upper left-hand corner c and drawing to the point b. This being



done, he puts the right hand curved line in by drawing from upper right hand corner d to the point b, making the curve to match precisely the other. After he has finished he must conscientiously compare his copy, not merely with a view to test the accuracy of his curved lines, but that of the distances which give what is called the size or dimensions of the drawing. The pupil should copy fig. 22 in the same manner, observing that the lines incline inward a little more at the top than fig. 21. Now let him proceed, at the top left-hand corner, a, to draw the waving or wavy line down to the bottom, b, and make the right-hand side to match it; and then carefully examine the drawings and see that they are like the copies. The draughtsman must not be satisfied if they *look* like the originals: they must be absolutely the same.

Recapitulatory Remarks on the Foregoing Elementary Lesson in Straight and Cnrved Lines.

Let us, before dismissing these early or rather earliest lessons of the young ornamental draughtsman, pass briefly in review what we have already accomplished. The result may be stated in few words. The pupil can now draw a straight line, and he can draw a curved one. Now, as these are the only lines possible-for an irregular line is but a combination of straight or curved lines, or both—he has acquired what has at any rate something of importance about the art of ornamental drawing.' Let the pupil consider that the application of these two classes of lines-the straight and the curvedare practically infinite. From the endless objects of nature down to the slightest carving of the chair on which we are sitting, does their power of expression range! Every class and style of architectural work—Egyptian, Greek, Roman, Moorish, British, Classical, Gothic or semi-savage, with their infinitude of ornamentation-are all representable by these two species of lines ! In a word, the whole temple of Ornamental Drawing is now open to the pupil, and he has with him a key which will unlock its doors and admit him to its apartments, however seemingly dissimilar they may be. This labour of his has not been in vain. Rather, in truth, has it been essential; for it has given him a potent power, with only the triffing inconvenience of struggling and disappointment and occasional downheartedness through which he has gone. The healthy working influence of this wholesome "drudgery" or "apprentice work" he has gone through will be felt during the entire course of his artistic career, and it will he with something of satisfaction that he is able to recollect that he had the good sense to "begin at the beginning," and do its hard work patiently and with a thorough determination to do it well.

Do not, however, let him delude himself with the notion that he has accomplished everything required to make him an able ornamentist. He has simply begun to *know*; and although he has an



accurate knowledge of the alphabet of the art, and can form its letters into simple words, the boundless field of its diversified litera-



ture, so to say, still needs exploring. To use the illustration before given, we have placed the pupil on the threshold of a splendid temple, and handed him the key of it. It is on himself now, chiefly,

that the work of progress must depend. It is his own powers of observation, aided as these must be by the cultivation of the



accuracy of the eye and the dexterity of the hand, which must mainly guide him. In the examples which will follow in succeeding chapters, he will find a much fuller development of the instructions which have been already laid down. And these examples we commend to his careful consideration and diligent copying, both as specimens which will afford him good practice, and as excellent initiations into the purely technical work of ornamentation.



Subjects for the Student to Copy.

We have just stated that we should give various drawings which, as examples, will be necessary for the student to master in order to give him that facility for "copying" which is the first essential in "designing." But those drawings which we now proceed to place before him, while they have this essentially useful purpose, are prepared with another view—namely, to communicate to him a knowledge of the leading characteristics of the chief styles of ornamentation. The whole have been carefully designed and prepared specially for the pages of this work. And this much at least may be said for them: that they are the outcome of such practical experience as is likely to be obtained from the work of a lifetime devoted to the teaching of design, with special application to what is now widely known as Art Manufacture.



Fig. 27.

The lines which the student has hitherto drawn were what might be called elementary lines of ornament. We shall now proceed to draw "form," or apply the lines to the shapes of objects. The first is a conventional form of a leaf (fig. 23). After drawing the shape, making both sides equal, the student will then carefully draw the veins, and balance them, making both sides equal: this is very essential. Following the last figure, the student will draw very carefully the Cypro-Phœnician wine cup in fig. 24; it is drawn the same size as the original, from a cup made three thousand years ago. The student will observe how the lip turns in, to prevent spilling. We

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have drawn in fig. 25 the section, in order that he might see the inside shape, as well as the outside.



Continuation of Subjects for Copying .--- Vases and Fruit.

In continuation of our examples for "copying," and serving also as bases for work in designing of ornamental subjects, we now come to a beautiful simple form of a Greek vase (see Plate I.), which it is hoped the student will very carefully draw, and study its form. It is drawn the size of the original, as is fig. 25, and like it is made of light red earth, and unglazed.



Fig. 26 is a small Phœnician vase or jug with one handle. It has two lines round the neck, and two more below the handle; there is also a line running round on the flat part of the top; they are of

a brown colour, while the clay is a warm drab. Plate II. is also a Phœnician jug, but very dissimilar to the last; the neck is decorated with irregular bands drawn round it, while the lines on the body are



vertical, running into a broad band round the middle of the jug, and not continued below it; the lines below alternate—that is, there is

blank space below and above the vertical lines. It is drawn the same size as the original, and α shows plan of upper surface of



mouth. Figs. 27, 28, 29, and 30 are outline drawings of fruit from nature, which we hope the student will very carefully copy. Figs. 4

 $27 \ {\rm and} \ 28$ the apple, side and top view, fig. $29 \ {\rm a} \ {\rm lemon}, \ {\rm and} \ {\rm fig.} \ 30 \ {\rm a} \ {\rm pear.}$



Figs. 31 to 36 inclusive bring before the student his first study

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of ornament. Figs. 31 and 32 are the well-known moulding called the "egg and tongue," or "egg and dart," in ordinary practice; in



architectural works and in lectures on ornament it is called the "echinus" moulding.

In figs 31 and 32 we gave the student his first studies in ornament, beginning with examples of the "egg and dart" ornament.



The example there given is Roman, but it was used both by the Egyptians and the Greeks; in the Greek it is different in shape.

In fig. 32 the lines are of purpose hadly drawn, of which the student should take note, and correct in his copy. Figs. 33 and 34 show how to draw leaf ornament used on mouldings of a different form to the last—a shape that is called the "ogee" in practice. Figs. 35 and 36 show how to draw the "acanthus" leaf moulding, and are used on the same shaped mouldings as the last example (figs. 33



Fig. 37.

and 33). As this is a most important form in ornament, we give in Plates XXI. and XXII. (block), an example of the leaf.

We refer to the above Plates as examples of the "acanthus" leaf, of which also fig. 36 is an example, fig. 35 being the block. The student will find this form of ornament—the acanthus—pervade the Greek, Roman, Venetian and Renaissance styles, and he will do well to study carefully its form, as we shall have to speak of this again.



We shall proceed now to a new subject, and give the student some drawings of leaves from nature. These play an important part in ornamental art. With the exception of one (fig. 39, the mallow), they are frequently found in decoration. The first is the ivy leaf (figs. 1 and 2—fig. 2 being the "block" of fig. 1—Plate V.). This leaf the student will find is used to decorate mouldings very



frequently. Fig. 38 is the oak leaf, which the student will draw very carefully. Of this fig. 37 shows the block shape, on a smaller scale. It will be good practice if the student will get an oak leaf and draw it from nature, after he has drawn the copy. He cannot too soon accustom himself to draw from nature. At whatever time of his practice he begins to draw from it, he will find it so difficult, that the sooner he begins to face the difficulty, and to overcome it, the

better for himself, as it will hasten his progress. The student will observe these leaves are what is technically termed "blocked in."

In the examples given in figs. 27 to 36, in figs. 1 and 2, Plate V., and in figs. 37 and 38, and described in the preceding paragraph, the student will have observed that each "study" or subject is illustrated by two drawings, one composed of a simple outline only, straight lines alone being frequently employed. These outlines are what are termed the "blocking in" of the subject to be drawn or copied. This work, preliminary to making the finished drawing, with all its details more or less minute, should be done by the student in every



case. This part of the student's practice is so important—although some altogether, and to their great loss as draughtsmen, omit it that we specially draw attention to it.

The student has now had some practice in straight and curved lines. The example, figs. 1 and 2, Plate V., before him, is a new departure: he will see that the form he is about to draw (fig. 2, Plate V.) is composed of straight lines, giving something like the shape of the leaf in fig. 1, Plate V. This we call the "blocking in" of the leaf. We would particularly direct the student's attention to it, for he will find all his subsequent studies blocked in, and this is done in order to save his time and hasten progress. Therefore let him draw the blocking in very correctly, and it will save time, as it is easier to rub out a simple shape, which takes less time to draw, should it be wrong, than a more complex one. He ought not to begin the finished drawing until he has done his blocking in rightly. When he has finished bis block correctly, let him proceed to draw within it his curved lines. When he has drawn all his curved lines correctly, having compared it with the copy, he may rub out the block and finish the drawing like the copy. Whether it be a simple leaf, like the copy in fig. 1, Plate V., or a complex design, such as in



Fig. 41.

Plates VI. and VII., the shape should be blocked in first, so that the pupil may see what space the design will cover on the object to be decorated. He can then fill in the block with any shapes he pleases. He will find this blocking in extremely useful in practice, and when he comes to draw the "human figure," which he must do if he is going to be an ornamental draughtsman, he will find blocking in indispensable, for the figure should stand right upon its legs, blocked in in straight lines, before ever he attempts to draw the shape of a single part. The pupil will observe that we say, he must learn the "human figure." We say so, from the knowledge of the history of ornamental art, that there never was a good school of ornament which was not founded on a knowledge of the human form. And observe, we say "draw" the human figure: it is not necessary that the pupil should paint it, for that is a long process, but he should draw the figure both from the antique and from life. For drawing from the living model will teach him to appreciate the antique, and will also show him what use the ancients made of the human form, and how beautiful they made it. He can compare the shapes of each part of his models with the antique, and he will see that they made each part beautiful and well shaped, so that they appear to have selected the best developed forms of each part of the human body.

We recommend the student to draw from the life and the antique together; beginning to draw from the life from the first. Thus, say that the draughtsman is going to draw a head, we would recommend that he should draw a skull, and compare all the planes of the skull with the planes of the human head. We have said thus much in order to impress on the student the importance of the study he is entering on. We are addressing students who mean to be ornamentists or art workmen, and whose aim, we hope, is to raise the art industry of the country and to establish a national style in ornament. But there is one outlook for them, and we tell it them candidly here, and that is "hard work." To learn art they must remember the words of Milton, and "scorn delights and live laborious days," and they will find happiness in them. We shall have more to say in succeeding paragraphs on the subject of figure drawing.

We would now direct the student to a practice which too often retards the progress of those learning to draw. We allude to measuring the lengths of lines either by a pencil or bits of paper. What we would impress on the student is, that he should first draw the line as exactly as he can, and then measure it. By that means he will learn to draw accurately by his eye, and he will find that this delicate organ of vision, if he will cultivate and train it, will measure more accurately for him than any compass or other artifice or mechanical help. For the last court of appeal in all drawing is, or ought to be, the eye. The drawing when finished must look right. The student may measure his lines, and find that they measure right in length, and so far as he can test them by mechanical measurement they are right, and yet his drawing does not look right. The student must cultivate his eye from the first, and he will find that after some practice he will not think of measuring, as he will regard it as waste of time.

We have just referred to the importance of cultivating the eye in the drawing of lines without actual measurement of them. When a student depends upon any mechanical means for measurement, of course he does not depend upon his eye, and therefore he does not cultivate or train it, or use it as he ought to do; and in so doing he is neglecting a very important element in his art education namely, the cultivation of his eye. We hope the student sees the importance of adopting the course recommended—that is, of drawing the line first and then measuring it. By the first means he is testing his accuracy of measurement by eye and is training it; by the second he is depending solely on mechanical means, and is neglecting the training of his eye and retarding his own progress, or not learning as much as he ought to do.

Referring now to the various examples or "studies" we have prepared specially, as guides to the student in the acquirement of his art, we proceed to describe them in their order. The figure next in consecutive order is fig. 38. This is the leaf called *mauve* in France, and with us known as a mallow leaf. The varieties of mallows are very numerous, and the student will observe that the shape is not unlike the geranium leaf. Now we come to a leaf that very much resembles the acanthus leaf (the chrysanthemum, figs. 3 and 4, Plate V.): the student will observe the divisions of the leaf and the "loops," and very carefully draw them, as he will have a shape somewhat similar very frequently in his practice. When we come to describe the "acanthus" we shall point out the different treatment of the leaf.

In Plate VIII. we give a drawing of a "vine" leaf, with the blocking in at two stages, b and c, in figs. 40 and 41.

In copying a, Plate VIII., the pupil should begin by drawing the pentagonal figure b, figs. 40, 41, giving the shape of the leaf with straight lines. He ought to be sure, before he draws more, that he has got the proportions of the leaf right—that is, its width as compared with its height; he will find that the height and the width are nearly equal. When he has succeeded in getting the proportions right, let him proceed to draw the curved lines into the straight ones, as at the half-leaf marked c, fig. 41; and having got all the curves correctly drawn, then finish the leaf as at a. He will observe that at the loops of the leaf—that is, that part of the leaf where one lobe joins another—the lines go into a point above a in Plate VIII., and do not form a part of a circle or an ellipse. The vine leaf here given was carefully drawn from nature, and the loops were drawn with great care.

In Plate IX. we gave the "blocking in," and in Plate X. the

finished drawing, of the Greek ornament known technically as the "honeysuckle," the form being conventionalised from the natural form of the plant or flower. The ornament is also known as the "anthemion," and the student will find this form quite common in ornament, used in various ways and in great variety.

The ornament known as the honeysuckle, technically the "anthemion," is very much used by the Greeks in all their decoration, in their architecture and on their pottery. We give two or three illustrations of it, for the purpose of directing the student's attention to it, and we hope he will study it very carefully. We also give an illustration of the Assyrian honeysuckle, to show the difference of treatment.

In the example placed before the student in Plates XI. and XII. he will see the manner in which the Greeks used the honeysuckle and tulip form, and how beautifully the lines harmonise and run into each other without any break. The student will find the honeysuckle in other styles, and especially in the Assyrian; but he will always be able to distinguish the Greek honeysuckle by the length, beauty and regularity of its leaves, and the intrinsic beauty of its curves and form. It would weary the student were we to describe the peculiarities of each plate: what we would recommend him to do is, as soon as he gets a new copy, to compare it with the one just finished, and note all the differences in the arrangement; let him carefully compare the plate before him with the honeysuckle in Plate VIII., and note the different way in which it is used. He will find the Greeks did not limit themselves to number, while in the Assyrian honeysuckle they are limited to seven.

The student's next example is preparatory to the one immediately following, and we need only say that he is now entering on a new order of line, and he cannot be too careful in mastering all its details. Having carefully drawn Plate XIII., he will finish his drawing from the following one, Plate XIV., observing that all the lines flow harmoniously. The examples that follow will become more complicated.

It will be unnecessary at this stage of the student's progress to do more than merely ask him to draw his examples or copies correctly; for by this time he ought to be able to do so. We here only direct his attention to a new form introduced—namely, the "scroll" (see Plates XVII., XVIII., XIX., XX., and figs. 1, 2, Plate IV.). These forms rarely occur in Egyptian ornament, although the student may find some development of its peculiarity in that style; but the Greeks use it in a most beautiful way, as indeed they do all their ornament. In the Roman ornament the student will find it more fully developed, and assuming an importance in their decoration which it never reached before. Now, as the scroll forms an important feature in ornament, let the student here "get it off by heart," so to say, as he has done his alphabet, that he may draw it well and correctly, without any break or bend, but let every line run correctly and harmonise with all the others. This he should do without a copy, and not rest satisfied until he has mastered it and can draw it easily and with satisfaction to himself, as it will form, if one may use the phrase, one of the letters of his alphabet of art.

The next example of the scroll, in Plate XIX., block line, which is the blocking of the drawing in Plate XX., forms part of the decoration of a Greek vase. The student will observe how beautifully it is arranged, how well each part agrees with every other part, and how accurately it is balanced. When he has drawn it very correctly, we would recommend him to draw it from memory, and not look at the copy until he has quite finished it, then compare it with the copy, and if it should be wrong, put it away and draw another, and then compare the second drawing with the copy, and also with the first drawing; by this means he will measure his progress. The student may here think this a slow process. Well, we hope he will take our word for it, but we recommend it simply to hasten his progress; and from this stage we would very earnestly recommend him to draw all his copies from memory, so that he can produce them at will whenever he may find use for them. In Plate XX. (XIX. is the blocking) we give a "scroll" taken from a cast of part of the "Choragic" monument of Lysicrates.

In figs. 42 and 43 the student will find a drawing of the acacia leaf with a small block shape, which he will be enabled to draw now to the containing size without any instruction. In the next example, Plates XXI. and XXII., the student will draw the leaf referred to above (see figs. 35 and 36)-namely, the acanthus leaf. This leaf is found extensively in Greek, Roman, and Renaissance ornament; in the Greek it is drawn with sharp points, while in the Roman it is more rounded. The student will find examples of it in subsequent plates in all the styles referred to above; he will then be able to note the different treatment of the same leaf in different We have in England an extensive flora : surely we ought countries. to be able to find some leaves that we could treat decoratively, without always falling back on this acanthus; and the object of these examples and remarks is to direct the student's attention to the desirability of establishing a national style which shall be as distinctly known to be English as the Greek is Greek.

In Plate III. the student will find another mode of using the "anthemion" or honeysuckle, referred to in Plates IX. and X. He

will observe that only one-half is here used, and also how beautifully it is bound together by ornamental bands. This example is from the



painted decoration of a Greek vase, and there is another illustration of Greek vase decoration, also painted, in figs. 1 and 2, Plate IV.

Before concluding the present division of our subject we deem it necessary to state that all the subjects we have given should, without any exception, be drawn to a larger scale or size than that given. For example, subjects occupying the space of one of our pages or thereabouts, or as given in the various Plates under one heading, should be copied to a scale twice, at least, or two-and-a-half times as large.

We insist upon this practice of drawing subjects to a large scale, as essential to the correct progress of the ornamental draughtsman. It will be time enough for him to execute those "pretty little sketches," which some pupils are so fond of producing, when he is master of his art. What he has while but a pupil to concern himself with, is to gain freedom of execution and accuracy in "lining," as well as a capability to estimate distances and lengths with facility and correctness. And this dual ability, the deftness of the hand to put down what the educated precision of the eye dictates, is what constitutes a true ornamental draughtsman. And those capacities or capabilities will hest-can only, we maintain-be secured, by drawing in his first or pupil practice on the large scale. When a line or curve is extended over a greater space, inaccuracies can be most readily detected, while the very space gives a freedom from manual exertion which is utterly denied by the niggling necessities of those petite sketches some so delight in. Had space been granted us, we should have given our examples to a larger scale; as it is, they occupy more space than is usually given to them in published papers of a character like the present. But we maintain that the space taken up by them, such as it is, is well bestowed; and it is in the interests of our readers that we have given it upon principle. In concluding this section of our papers the student will take note that each example has been selected, and every line in each drawing is done with a purpose and has been drawn with a specific object in The examples given embody points to be studiously and view. carefully followed, as well as those which are to be avoided. The student will find valuable practice in detecting the points which are wrong and correcting them in his own copies.

Before taking up the important department of our studies comprising lessons in shading of drawings, we would again impress upon the student the importance of attending to what we have more than once alluded to in preceding paragraphs—namely, the doing of his work thoroughly. If he has the conviction that in any one of the lessons we have up till now given, he has not done this, we would earnestly counsel him to be honest with himself in the matter, to bring himself to the bar of his own conscience and sternly deal **out** judgment upon himself. He will thank us for giving him this counsel if only he fairly carries it out. He will be not only all the better draughtsman for the doing of it, but very much the better as a man. The matter is not, indeed, lightly to be treated, from any point of view. This vitally important principle of doing work of any kind lies at the root of success in it. And so far as regards the ornamental draughtsman, it should not be lost sight of in the doing of his work. The principle is expressible in the well-known motto of an old and noble house-"thorough"-amplified in the text of Scripture, which, by the way, odd as the remark may here seem to some, is full of grand and noble lessons applicable to art, "Whatever thy hand designeth to do, do it with all thy might." Nature is always, as we have said, thorough. "Fool!" says a writer, somewhat warmly-and in truth it is not easy for one always to be cool in view of inept, conceited vanity—"fool! thou thinkest thou seest but a dull clod of the valley ! well, down on thy knees, examine it closely, and if thy dull eyes can but see, and thy duller brain can understand what they see, thou wilt rise mayhap with clay-coloured pants which may vex thy soul, still with some, if only a faint conception of a truth other than that thou first thoughtest of. Thou wilt indeed be very dull if thou then thinkest it still a dull clod, if thou hast not seen in it a beauty, yea, a grand beauty, which may perhaps bring to thy mind some vision from memory of some Alp region thou mayest at one time have visited, wild and yet lovely place, with its gentian-coloured slopes, its glades and rich valley, green-grassed and flower-bespangled-for colour there is, and that of the richest, in the clod-of-clay region of hill and dale, of stream, mountain, and shaggy peak-for form, grand and majestic, yet in many of its aspects wonderfully minute, is there : deep, dark gorges, sun-dazzled slopes-for light and shade are there. And all, and more than all this, lies on the surface of that clay clod thou didst call dull. It may be that in thy brain-pan may come the thought that the dulness did not lie in the clod, but in thyself." All this, no doubt, is the exaggeration of warmth, but it is the expression of a great truth notwithstanding; and till the student fully grasps it, and determines to make its principles his own, he can scarcely hope to take rank with the true artists. They are ever laborious, hardworking men, ever studying the great book of nature, ever striving to learn what lessons it teaches and to accept them in their practice. The true workman need not to be ashamed, but for him it is still necessary to learn patient labour by going to the ant, painstaking completeness from the flower of the field or the clods of the valley.

This, then, is the shape which we hold this question of truthful detail to assume—"That which is worth doing at all is worth doing well"; and he who pretends to draw a rose should in everywise represent it so that we can distinguish it from a poppy or a dahlia. If he be not willing so to represent it, let him in no case put what is not truthful on his canvas or his paper, but let him consider whether it will not be better to leave such untruth out altogether. This does not, of course, as we have already said, preclude or forbid the artist conventionalising any natural form, any more than it denies him the right to give us some representation of the workings of his imagination, however strange his fancies may appear, unlike aught that is in earth or air or sea. Only let the conventionalising he does be so done that it tells its own story, and plainly doing so is not likely to convey an untruth; at all events, so represented that it will be at once known that he does not mean to deceive. As for the pencillings of his fancy, there is little chance of their being taken for truth.

We commenced by saying that the art of Drawing is concerned with the representing of any object. But in order that we may represent, it is of the highest importance that we shall first *know* what it is we really wish to represent. In other words, the first thing the artist, or draughtsman—we take the terms to be synonymous, as no one deserves the title of draughtsman who is *not* an artist—ought to do, is to acquire a knowledge of the object to be represented. And there are two or three points in relation to the character of this knowledge which we shall examine, now that we have practically drawn the student's attention to the objects of it. It is essential to the reader as an art student that these said points should have his best attention, that kind of attention which he would bestow on some object he was determined to win for himself.

We remark, then, in relation to this knowledge, that it should be an acquaintance with the highest or representative specific forms of the things the artist or ornamental draughtsman wishes to draw. Let the student mark the words. We do not write anything in this sentence but what we mean. "Highest or representative specific forms" are what is necessary; the student should know minutely, in a word, perfectly. Not "individual" forms, not a knowledge of the shape of every cloud in the sky you gaze in wonder or in awe at, or of the smallest curves in your tarn, or of each leaf on your tree, each grass-blade in your field. Not that you should "count the hairs on a donkey's hide, or the spicula in a haystack," and with Flemish patience seek to draw them, until you throw up the pencil in disgust, and cry "Vanity of vanities—this is a vexation of spirit !"

Let us understand, then, minutely, the character of this specific knowledge. We would define it, in reference to art, as "an exact acquaintance with the most perfect forms of those species of objects which enter into pictorial composition, or into any specific work which popularly, if not accurately, is called a design." Thus, in a noble landscape the trees will be noble, quite different in every essential point, as much from the small niggling of certain schools of art, as the outrageous blurring or blotting work of others. The artist draughtsman will draw his rocks so that we may not only be able to say whether they belong to the older or newer formations, but that we may feel their sublimity or their ruggedness—characteristics of which some artists of the old school seem to have been altogether ignorant. In a word, the artist will represent those objects in his landscape which will most conduce to nobleness in general plan, nobleness in truth of highest detail.

We remark also, in relation to this knowledge, that, whilst entirely distinct from that acquaintance with mean and vulgar individuality which characterises generally the work of some artists, it should still be minute, and extend to the specific character of every object represented. It is necessary, we repeat, that this knowledge should be minute, and extend to the specific character of everything represented. In other words, in drawing any object, the artist should know what he is drawing. He should not be influenced by vague conjecture, or an indefinite hope that the drawing will "come out right in the end." The specific idea should be distinct from every other idea, and should stand out clearly before the artist's mind with all the definiteness and precision which results from this treatment -as something known, something understood. The "motive and guide " should not be the " intellectual initiative " which is required in inductive experiments, but the settled conclusion of a syllogism. whose major and minor premises the artist is thoroughly acquainted with. and of the correctness of which he is as assured as of the correctness of a mathematical axiom. He should know and represent with equal certainty. Every object he draws will be thus understood by him; and he will by no means draw it unless he thus understands it. Indeed, it will be infinitely more correct to say that without understanding he cannot really draw it. He may attempt: but this will be a failure.

We have also affirmed that this symbolism and its consequent sympathy will be the cause of an augmentation of the insight of the artist into form and colour. In so far as it desiderates examination, and thus does away with ignorance, it tends towards this insight, but in a higher sense this may be asserted of it. This symbolism forces him to love, so that the objects of his symbolism become the objects of his closest study; for what one loves one likes to know, and the artist gets in time acquainted with them in their detailed specific character, because it is a delight to him to make their acquaintance.

It is not our intention to treat of this specific and symbolic knowledge as they influence artistic details. In the course of these chapters on Design it will be our task, or, honestly to say, our privilege and pleasure, to sketch the character and meanings of certain objects, which are of a widely representative character. Such minutiæ as it may be necessary to examine, in carrying out our idea of giving initiative facts, will be described with so much of specificness as their representative quality will allow; hut our main purpose will be best fulfilled by confining ourselves to general considerations, which, whilst imperatively demanding attention and obedience from all, will still admit of the widest development of all true artistic idiosyncracies or likings, and be applicable to all branches of design. We do not, however, and for obvious reasons, say much on the subject of colour in the present series. This is gone into in the separate paper "On Form and Colour in Industrial Decoration," to which the reader is referred. It will, of course, be seen that the principles which have been laid down in relation to specific knowledge and the symbolism of nature apply as well to colour as to form. The infinite is in both, but certainly the subtler and the more noble and suggestive is colour.

We have stated that an embryo artist, setting himself down to think over the vocation to which he was called, would consider first what he had to know, and afterwards how to express his knowledge. But an acquaintance with the right modes of expression should be contemporaneous with the learning of theory. For there is so much to learn, that *how* to represent is scarcely less important than *what* to represent. And although this knowledge is glorious in itself, even if it were incommunicable, it becomes vastly more so when we not only possess, but can likewise give it,—when, in a word, our riches become usable. Indeed, is it not its heing capable to be used somehow, and for the good of some one in this world, that a man should carefully consider in his attempt to get learning of any kind ?

It will be well for us, then, to begin by learning what Nature teaches us, and afterwards to learn how she teaches. And it is to this point of the manner of her teaching that we would now direct attention. We wish, therefore, the reader, or rather, as we should say, the student—for it is study, not merely a mechanical reading of what we say, that is demanded here and throughout of him—to notice under this head the various characteristics of Nature's expressional power, and would advise him to seek to secure a mode of representation which shall possess as nearly as possible the same characteristics,—this being the best possible guarantee of success in what may be called the mechanical part of the art of drawing. We use this term to indicate what is to be *done* by the deftness of the hand and the quickness of the eye, as distinct from that which has to be grasped by the mind or dictated by the imagination or the fancy.

The first point that we shall attempt to illustrate is the completeness of Nature's expressional power. About her way of showing her meanings there is no appearance of rude hurry, no traces of confused incompleteness. Everything is done after the most careful fashion; and her general plans, her main ideas, perfect though they be, are never allowed to interfere with the entireness, in every point, of her minutest detail. The mountain, the shadow of which throws darkness upon the earth for miles beyond its base, may be purple-clad with heather, whose every bell shall have beauties far beyond discovery by the keenest vision. The ocean, which stretches away on all sides illimitably, might employ the power of the noblest painter to express the measureless meaning of a single yard of its surface. No deficiency, no random purposeless lines, no uncertain wavering tints, no miserable attempts to fill up a landscape with foolish falsehood, or practising of ignoble "economy" in any kind of expressional effort, are ever found in nature. Now, apply this principle to the method of drawing or painting. In artistic compositions, everything therein will be complete. The strokes will all have their meaning, distinct, decided, indisputable. Every form, whether it be animal, vegetable, or mineral, cloud-flakes, coast-shadows, and ocean-foam, will be complete, entire, perfect. No shuffling, no evasion, no laziness, but a straightforward looking at all the facts of the drawing or picture, and a rendering of them after the fullest fashion consistent with nobleness and truthfulness. An honest method of work this; indeed, the only honest method. One of the greatest mistakes which students commit is to believe that the valuable may be obtained without some equivalent at all, generally. Practically, in a thousand ways, we throw in seed by the wayside, and fold our arms contentedly, lolling out the summer, and hoping that things "will come right in the end." But when the "harvest time is gone and the summer ended" we shall find, alas! that whatever reaping there has been for some, there has been none for us-save the sorest of all reapings, the saddest of all sowings, that of the whirlwind and the wind. Nature is no niggard in the bounties she offers-she is the freest of all givers; but we must go to get her gifts, and both the going and the getting speak of labour, not seldom of pain, although in very truth he who
goes will find in his getting how true it is-to quote the fine language of that Book where the finest language is embodied in the most beautiful and suggestive of similes-that he who "now goeth forth on his way weeping and beareth good seed, shall doubtless come again with joy and bring his sheaves with him." And, in sober fact, the artist who is true to his vocation-and that he is sure to be if he be true to himself-will find not seldom that he will go forth to his labours sorrowing. For it is only the inept or the conceited who is satisfied with his work. The true artist is ever "sighing for his ideal." It is not given to him to be satisfied with his work. Work, indeed, considered as a thing done, and done well-the only true and honest conception of work, be it noted-is what he never feels that he has done. At the best he has but honestly attempted to do his For, as one of the greatest-greatest because so morally and best. religiously noble in his thoughts-of our authors has finely said, as the schemes and hopes of the brain go fast and far ahead of the dexterity of the hands or the nimbleness of the feet, so the true artist ever finds that his high and noblest conceptions of art are but rarely, if ever, realised; the height he vainly hopes to reach to-morrow he finds to be but a vantage-point from which he sees but too clearly that the point he aimed at is unfortunately higher than he thought of. But the true artist, like the true man, is not daunted by difficulties, sitting to cry over them as they surround or lie before him. They are things but to be overcome. So that is all, and so much in sober practicality is it, that should any of our students conceive success will be obtained without his realising it, he will be sorely disappointed. Should, indeed, he be inclined to be daunted by it, and not possessed of the bravery to meet it, the best counsel we can give him is to throw up his pencil and "try some other trade."

We have said that the artist must go to Nature for his best teachings. This, however, does not preclude, as some might deem it does, his going also to the "works" of artists who have gone before him, or who are his contemporaries. The true and the good amongst these are worthy of being set up as teachers. For they who did those works have done the same thing we here write about. They have been to Nature's school, and it is only in so far as they have been apt and willing scholars that what they have done is good. Nature, as we have said, is infinite in the variety and the fulness of her expressional power. The fields for the display and the study of this are as wide as they are endless and inexhaustible. Even so, and that in almost the smallest of her subjects. There is a year's study in a group of stones lying on the face of some precipice, which have been weathered by the storms and the sunshine of centuries; a year, indeed, would not exhaust the beauty of that which might be covered with your extended hands. Artists have been known to spend year after year in some favourite spot, the area of which might be measured by a pebble cast from a strong man's hand, till after they had become grey-headed in the loving service they have confessed that, so far from having exhausted the beauties or learned all the lessons which they could give, they had only begun to discover how infinite and inexhaustible they were. A young artist will learn much-it is not given to any one that he should learn all-from an hour or two's study of the clouds. Let him lie down on some fine, warm, genial May day, or in the "leafy month of June," when the very air he breathes is, as Hawthorne says, "something to thank God for," and look up into the sky. Let him honestly, in a loving, trusting spirit, try to see as truly as he can what is spread out before him. And if he does not rise from this patient study with some conviction of the truth that he had till then not even a faint conception of what the clouds show and teach, we shall be much surprised. Nor will he be henceforth surprised when he hears on all sides of him the popular expression of opinion as to what cloudland and its glories are, for he will then have a knowledge of his own previous ignorance to fall back upon to explain the reason. And assuredly he will have learned how exhaustless of artistic lessons this much-neglected region of wondrous beauty is. Nor, in referring him to this region of study, do we lose sight of what "old mother earth" can teach. Neither is the student, who takes to the study of the sky to learn somewhat of the mysteries of the "balancing" of its clouds, at all likely to lose sight of or interest in the green fields below them, over which in sunshine they cast their wondrous shadows. It is not given to every student to travel far to study the grandest of natural scenery; but, as we have already hinted at, he will in the confined limits of even a by no means picturesque locality in which he may reside, find enough to teach him lessons applicable to his art. Indeed, if he could feel assured that he could master all the lessons yielded by a short stretch of country lane, or strip of hedgerow and fence bottom, or, failing that, but some tiny plot of town or suburban garden, he might well congratulate himself on the acquisition of his treasures.

Nor let it for a moment be supposed that this study of nature in the widest, and failing that in any narrower aspect, which an art student can command, is only to be followed by those who design to follow out what is supposed to be that profession to which the name of "artist" is alone to be applied. There is no mistake which has been made in all matters connected with art, which has been so pregnant with real mischief as this idea, that it is only this class of artist-the painter of pictures popularly so called-who has any lessons to learn from a study of nature. This crude notion it was which, more than anything else, brought about that almost utter absence of artistic feeling and expression in the popular mind, which was our national characteristic even at a period so recent as some quarter of a century ago. Nor need this popular belief be at all matter of surprise, when we recollect that there were scarcely any of those actually concerned in the designing and manufacture of various objects, who had the remotest idea of the benefit they would receive from the study of nature. It was only the other day that one who has done in his own particular line of art-manufacture more than any one to release it from the reproach, all too well founded, under which it so long laboured, earnestly advised all connected with his business to go to nature as being the best, indeed, the only place, where lessons applicable to true art could be learned. Nor did this ignore the value of or lessen the importance of study of the works of the best masters of design, in ancient, mediæval and modern times; for the best of those masterpieces were the work of men who loved nature best and studied most. Nor was the advice this able authority gave confined, or only suitable, to those connected with his own branch; it was, and is, applicable to all other branches of art-manufacture. And it is to the wider study and closer love of Nature in all her glorious manifestations—alike glorious in the grandest stretch of wildest forest scenery as in the tiny flower which peeps from beneath a stone or waves in the winds which gently sweep the banks of our country roads—that we owe the fact that we have now manufactures to which, in some at least of their works, the term "art" may with truth be applied.

We have now brought our pupil reader to a point in his progress as a draughtsman where he at least knows what he ought to do in order to have the power to execute what is called "outline" work, and this either in copying from the works of others or committing to paper his own conceptions of ornamental form, or in taking representations of objects which abound in an infinite variety of lines in combination from the inexhaustible resources which nature opens up to him. The pupil reader may not be able at this stage of his progress to do all this work, or any one part of it, with facility and accuracy, but these will come with careful and conscientious practice. How to study and how to practise we have endeavoured to show, and this with at least an earnest desire to be honest with our pupil readers, and that, in their study and practice alike, they should be honest to and with themselves. There is very much in the phrase "conscientious work," and without it but little true progress will be made.

We have now to introduce our pupil reader to a further and a higher stage of his art—that of shaded subjects. Hitherto his work has been confined to subjects in which the effect was obtained by lining only. In the higher department lining or outlining is still of the highest importance, but the effects of light and shade are to be added to the subjects.

Shading.

Before entering upon this subject, it will be well to treat slightly of the materials the pupil is to use, and also as to the different methods of using them. And this the more especially as these matters are but seldom touched upon in those works on drawing in which we might reasonably expect to find something concerning them. Most young aspirants to artistic fame are sorely puzzled, in examining a finely finished chalk drawing that has been done with the point, to account for the peculiarly brilliant effect, so soft and yet so distinct, which such drawings possess. Lithographs have an effect somewhat similar, and it appears to the youth natural enough that "printing" should bring about such a result; but how it can be managed by the hand, and with such simple materials, he does not see so clearly. It is with the purpose of enabling him to understand this that we give the following details.

In the first place, the fineness of effect in a chalk drawing depends very much upon the paper. Every kind of paper is not suitable. If the surface be too roughly granulated, it is impossible to produce a brilliantly toned delicacy of shadow; if too smooth, it will not "take" the chalk at all. As in water-colours, so in chalk drawings, it is absolutely necessary to choose paper of a given quality of granulation, or success is entirely out of the question. In making his selection, we would advise the pupil to avoid by all means the common smooth cartridge, buyable for twopence the sheet. We have found Whatman's Imperial, at sixpence the sheet, exceedingly suitable, not hot-pressed---a process which simply does away with this granulation. There is a paper specially made which has the exact amount of. granulation which fits it for its specially intended purpose, and the purchaser may rely upon its excellent lasting qualities. Directions for sketching the subjects upon the drawing-paper chosen have already been given in the chapter on the first elements of Freehand Drawing.

Chalk is sold in two forms. You can get it in small sticks for use with the porte-crayon, or buy it in wood, made up after the fashion of a black-lead pencil. The former is the better when you are stump-drawing, and require a quantity of dust quickly produced; the latter is decidedly preferable in point-drawing. There are two shades of black chalk buyable. No. 2 is a deep soft black, and is generally used for blocking-in the rough broad shadows of subjects. No. 1 is finer and harder, and is also generally employed for the lighter shadows, and for filling up, by stippling, the interstices left by No. 2. But in our practice we should recommend the student to work his drawing all through with No. 2, beginning and ending with Our reason for this recommendation is, that by using No. 2 it. lightly the student can obtain all the delicacy of No. 1. The using of the two numbers is apt to mislead the student, and make him think that fineness of finish is the object to be aimed at, in place of expression of form, which is really what constitutes the value of his work. We wish to impress this most distinctly upon the student, in order not only to save his time, but to prevent him falling into the vices of a meretricious style, which, whatever may be its claim to be considered finished work, is far removed from what constitutes truth of form. The student must ever bear in mind that the finish in chalk is but the means : expression of form is what he is to look for. Whether the drawing be coarse or finely finished, if the form be not expressed, the drawing is worthless. Of the absolute truth of this let the student rest assured.

The French chalk pencils are undoubtedly the best; and of these the sticks marked "H. C. A., Paris," are to be preferred. They are almost universally adopted in the Government Art Schools. You can purchase them for twopence the stick, both our Nos. 1 and 2 being the same price. The quality of the chalk in these pencils is, however, rather uncertain, and there is no method of distinguishing a good one from a soft or gritty one but by using it. It by no means follows, though, that because a stick starts badly, it is bad all through; in fact, the opposite is as frequently the case as not. The grit will be found in many of them to have penetrated but a short distance, and the remaining part of the stick will turn out excellently. In using a gritty pencil, we would advise the student to continue cutting it until the grit or the stick is entirely gone.

A word or two as to the forming of the chalk point. If money be of any importance, the sharpening of the pencil deserves some consideration. A good point is likewise essential to the doing of the work properly. The student must not grasp the pencil in the left hand, and hold it from him (as we have seen some art students do), and then, with the knife equally firmly held in the right hand, whittle away at it, giving to the point no support at all. The almost certain result of adopting this careless way of making the point is

that there will be no end of breakages, and consequently no end of expense. We have seen a stick free from grit cut through in half a day after this foolish fashion. The hest mode of getting a good point we proceed to explain. Take the new stick in the left hand, and hold it hetween the thumb and first finger. It will then rest in a part of its length on the second finger. Grasp the knife in the fingers of the right hand, and press the stick against the right-hand thumh, which is left free. Then begin cutting about three-fourths of an inch above the end, and very gradually form the point by careful and delicate use of the knife, leaving the chalk bare about a quarter of an inch. After you have done with the knife, take a small, thin, and very fine file, and very cautiously file down the point to the required degree of delicacy. In the use of the file great care is necessary. The pencil should be held still in the left hand, its point resting in its whole length upon the soft flesh over the extreme phalange of the first finger. The thumb, which is free, will turn it round as the file goes over it. It will not be necessary to file the point where only rough broad shadows are required ; but when you wish for extreme delicacy, whether in stippling or hatching, we heartily recommend this to be done. For all that is necessary in work, the knife will be sufficient; the student, therefore, should from the first accustom himself to its use.

It will not be necessary to give any lengthened definition of what is meant artistically by the term "shading." The pupil will easily understand that by the shaded portion of an object we mean that part of its surface from which the light is either wholly or partially excluded. The dark side of the figure is its "shaded" side, or that portion of it from which the light is shut off. It will not need much explanation, either, to enable the pupil to understand that not only does one part of an object exclude light from some other part of it, but the object itself shuts off the light from some other object; or, as it is termed, "casts its shadow." By way of illustration, take a lighted candle, and put it close to the hand, in a room otherwise dark. The hand is not only shaded on the side opposite to the candle, but it likewise "casts its shadow" upon the wall in the shape of itself. We recollect the fine use which Wilkie has made of this fact in the conception of his "rabbit on the wall." Another fact for the student to remember is, that reflected light has enormous influence upon shadows, and the truly fine artist is the one who most clearly evinces his knowledge of this influence. By reflected light we mean that light which, being thrown by one object upon another. is transmitted thenceforward to some other surface. As an example, take a book in the left hand, and place it between yourself and the

window, so that you look upon its shaded side. Then take a piece of white paper in your right, and hold it so that the rays of light which fall upon its surface may be reflected or thrown back upon the said shaded side. It will immediately be perceived that this latter becomes lighted up; and this will be the case in proportion to the light receiving qualities of the object which casts the reflected light. One of the finest examples we know of the treatment of reflected light is in Rembrandt's painting of "The Burgomaster." The burgomaster is reading a letter, with his back turned to the window, his left elbow resting easily on the window recess. The light falls directly upon the letter, and is cast thence upon the face, which is thus relieved from what could not have been, but for this, other than a sombre, gloom-filled shadow. There is a marvellous play of reflected light and shade upon some of the antique statuesin, for example, "The Dancing" or "Clapping Faun." If this cast be placed underneath a light from the top of the room, so that the rays may fall on it at an angle of 45°, our meaning will be seen clearly enough. An attempt at explanation without the cast would be tedious, because of its complexity.

Another principle which the student must take an intelligent note of may be stated thus :- Gradation of shade produces the appearance of roundness or projection. Thus, the globe or sphere, as in fig. 1, Plate XXIII., is not only a geometrical circle, but it looks also like a globe; or in other words, one part of its surface seems nearer to us than the other, its centre representing the limit of the prominence towards ourselves. Take the chalk pencil, or any object with a rounded surface, and examine it with the view of finding out the reason why, without touching it, you understand it to be round. You will notice at once that it cannot lie either in the body, colour, or the outside form; for an object with square edges, and of the same colour, would have a precisely similar appearance without the gradation of shadow. Its roundness of look is the result of a regular deepening of shade, which, starting from the high lights, is continued in the same ratio of gradation to the dark parts of the figure. An examination of the drawing will give the pupil a better notion of what is meant than any amount of description in words. Let the pupil take an egg, and mark the influence of this principle upon its shadows, and he will instantly be able to make further practical application of the rule under consideration. It will not be necessary to enter more fully into this general subject of shading here. In the first place, we have said enough about it to enable the reader to comprehend fully our subsequent instructions. We earnestly advise, however, that the sketches in figs. 1 and 2, Plate XXIII., receive

the pupil's best attention, as the remarks which follow on the subject



Fig. 44.

of chalk shading will presuppose a thorough acquaintance with the



Fig. 45.

principles there illustrated. The remarks which have just been made



Fig. 46.

concerning gradation of course imply that there are different depths of shade. The shade immediately joining the high light, in the figure of the sphere or globe in fig. 1, Plate XXIII., the pupil will see is



Fig. 47.

different in degree from that towards the lower part of the sphere's



Fig. 48.

circumference; and it is necessary that he should be able to express



Fig. 49.

various depths of shade-slight, medium, and intense-over an extended surface with regularity and evenness, before proceeding to

try gradation. For unless he can produce a flat shade—as, for example, the side of a rectangular object in fig. 2, Plate XXIII.—which shall be equal in intensity over a given surface, he can never expect to succeed with a graduated shade, which demands for its perfect expression fine feeling and most delicate handling.

Let the pupil take the rectangle, fig. 44; draw within its boundaries, taking a No. 2 chalk, a number of extremely fine lines in any direction, as in the sketch. Then, across these, at an angle—see fig. 45—let him draw other lines of similar fineness, and with the same distance between them, giving the effect as in fig. 46; then sharpen his point with a knife to as extreme a delicacy as he finds possible, and fill all the remaining interstices in the square by stippling or pointing, as in figs. 47 and 48. In doing this the pupil must be very careful not to let his point encroach upon any of the



Fig. 50.

lines, or the result will most probably be unevenness, the thing he is specially to guard against. Let him use the point to dot, point or stipple up every untouched portion of the surface of the figure, until he can find no part which has been left undone. Now let him make an examination of his attempt. Probably enough, there will be much to find fault with. Some portions of the surface will be lighter than others, and most likely his first effort at stippling has mainly resulted in small, black, irregular patches, which *will* show themselves. Do not let him permit this, however, to dishearten him, but let him draw surfaces of the same depth of shade, and he will at length be able to produce one tolerably even or uniform in surface.

Figs. 49, 50, 51 and 52 show different degrees or tones of shading. It will be understood that figs. 44, 45 and 46 show the successive steps taken in getting the groundwork of the shade. The first stage of this is shown in fig. 46, in which the two crossings—one of which is shown in fig. 44, the other in fig. 45—are combined. This stage is the next to the stippling or filling in the interstices of the crossed lines in fig. 46 with points, which is shown in two stages in figs. 47 and 48.

Now let the pupil try what he can do in the producing of a gradated shade. Let him take fig. 2, Plate XXIII., in hand first, beginning with No. 2 chalk to hatch in the deepest portions with fine crossed lines, as already described, the lines getting lighter as he approaches the right hand. With the remaining portion he must proceed in a different way: prepare the chalk to as fine a point as may be; and, with the end of the pencil held in the tips of the fingers, run over the surface in a light, smooth manner. Then starts the real difficulty of the work. Let the pupil clearly fix in his mind what he has to do. The whole face of the cube is



Fig. 51.

to be shaded, so that the gradation of the whole will be perfectly regular, and consequently no two portions of its surface the same.

We have but to repeat the principle, which we have insisted on through this work, that hard work now means success in the future. Do not let the pupil despair of being able to produce a more finely gradated shade than is given him in the drawing, as it is impossible for the engraver to equal the delicacy of shading done by the hand. Therefore his attempt to copy the figure should be greatly superior to the copy. When he has brought his drawing to the condition above mentioned, let him commence filling up with the chalk all the interstices which have been left unfilled in the extremity of the figure's darker end. He should proceed towards the upper left hand, and cautiously, and, after every two minutes' work, step back from the drawing about three feet, and observe whether he has been keeping the shade entirely even in its decrease of intensity towards the lower right hand or opposite corner. This evenness is, of course, the thing the pupil is striving to obtain. When he comes to the lighter portions of the figure, he will require all the care and all the patience he is possessed of to accomplish a fair result. He must cut the No. 2 chalk about half an inch higher than for ordinary shading, and work it down to a most delicate point. Let the pupil remember that the whole of what is left undone must be worked up with the point by stippling. The successful bringing out of a good copy now depends entirely on the pupil's care. We cannot write more by way of direction, and we therefore leave the figure with him.

In the drawing of figures the pupil will need no further instructions than those which have been given in relation to the figs. 44 to



Fig. 52.

52. The speciality about it is, that in each there are what may be termed two degrees of deep shade for gradation. The light falling upon the left-hand side of the cube, or light face, throws the side to the right hand darker or into shade (see fig. 2, Plate XXIII). And the pupil will observe that the shadow is darkest nearest to him, gradually coming lighter at the distant or extreme right-hand corner and edge. The dark portion of the paper on which the object apparently stands is called its "cast shadow," and of this it will be noticed that in tone it is darker than the darkest part of the object itself.

The globe, ball or sphere in fig. 1, Plate XXIII., will need much careful handling, but it is scarcely possible to give fuller directions than we have already presented. It will, however, be necessary to point out one or two things with relation to the cast shadow of the

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object now referred to, the globe or sphere. The pupil will observe that this cast shadow is not of uniform depth of tone or blackness, but that it follows the same law of gradation as regulates the gradated tones on the globe itself, being darkest under and nearest the globe, but toning out to a lighter shade at its right-hand extremity. This drawing has been taken from a ball or sphere made of plaster



Fig. 53.

of Paris; and we should recommend the pupil to procure one of the like material, and to make his drawing from it. The whiteness of the object itself will show him the delicacy of the gradation of shade from the "high light" towards the upper or left-hand side of the globe in the drawing in Plate XXIII. to the "crescent of shadow" towards the lower and right-hand side." It will show also the



Fig. 54.

"reflected light" seen at the extreme edge or part of the globe below the crescent. He will also see the depth and the gradation of the cast shadow.

A few further illustrations of shading by chalk may usefully conclude the chapter. It is scarcely necessary to say that the same effects of shading as we illustrate in this and in the preceding



Fig. 55.

examples will be produced by the aid of the ordinary drawing pencils. Pencil shading, however, does not give the same finely soft effect which is produced by means of the chalk crayon. Figs. 53, 54 and 55 illustrate the method of giving the effect of roundness to a flat disc, with circular edge or periphery. The light is supposed in all our drawings—with Continental artists the opposite is often the case —to come from the left-hand side the rays of light descending, so to say, from above the object, and in the direction of from left to right at an angle of 45°. The left-hand side or edge of the flat disc in fig. 53 is therefore shown to students with a light shade. By consequence, the right-hand side or edge is the darker, as it is farther from the light: this is shown in fig. 54. The two, when



Fig. 56.

done in the object give the combination of shades in the completed or finished drawing as in fig. 55. A cylinder or a pillar or column is shaded in the same way, and presents the appearance as at c in fig. 56. In the same figure A shows the cylinder or column, when first begun to be shaded, this showing the light or left-hand side; B is the second stage, giving the dark or right-hand side; c is the finished or completed sketch, in which A and B are combined.

These figures illustrate what is called "shading,"—Plate XXIII. illustrates "shadows." The difference between a "shading" and a "shadow" lies simply in this: that in all shading there is a gradation of tint or tone in the darkness, blackness or depth of the lines and stippling or pointing produced. This gradation gives the effect of the dark gradually melting away, so to say, into the light portion of the surface of object being shaded. In a shadow, on the contrary, there is no gradation. The shadow may be put to show very deep or dark, or only comparatively dark; but whatever be the precise depth of tint or tone of the shadow, it is essential that it be uniform, one part not appearing of a deeper tint than another: to use a popular phrase, the surface must *not* be mottled or dappled: A in fig. 57 illustrates a shadow thrown—or, as the technical phrase is, "projected"—for description of the terms "projected" and "projection" see the volume entitled "The Building and Machine



Fig. 57.

Draughtsman"—on a flat surface. This shadow is created or caused by the projecting part. The shadow is terminated at the lower side by a straight line; but if the body, in place of being flat, as at A, were cylindrical, as in B, the shadow thrown by the projecting part would be bounded on its lower side or edge by a broad line, as at B.

END OF "ORNAMENTAL DRAUGHTSMAN."

FORM AND COLOUR IN INDUSTRIAL DECORATION.

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THE TECHNICAL POINTS CONNECTED WITH THE EMPLOYMENT OF FORM AND COLOUR IN INDUSTRIAL DECORA-TION.

Introductory.

THE purpose of all decoration is to beautify the object to which it is applied. We do not here propose to enter into the discussion of the question as to what constitutes beauty in an object of art. What has been said upon this much disputed point—at least, as much of the discussion as is useful for our general purposes—will be glanced at in succeeding paragraphs in this paper. We here take it for granted that the artist who proposes to apply design to decoration has in his mind the principles of what constitutes beauty according to our best authorities; otherwise he is not prepared to carry them out into practice. Our present purpose is to give a general statement of the principles of decorative art, following this up with some remarks under separate heads, showing their special application to certain departments of art manufacture, such as pottery, wall decoration, and the like.

Decoration of Form.

And first as to the decoration of form. And here the young art student must bear in mind that we are now considering those objects which have a certain shape or configuration giving solidity—the term form in the meantime not comprising those shapes of surface which have an outline no matter how varied in configuration—that is, which have surface only. The first or primary principle we start with is that the decoration adopted—whatever be its style—shall not interfere with the true or original form of the object. Take, for example, a Greek vase. This, so far as its form is concerned, may be divided into three parts: first, the body, comprising the bulk of the vase; secondly, the neck; and thirdly, the base. Take first the base, as treated in Greek art. The decoration of this part consisted in the avoidance of all cross or angular lines, and in the imparting to them a perpendicular or vertical direction, so that the body of the vase would spring from the base as naturally as the flower from the calyx. The base or foot generally was decorated with bands of varying width; the lower part, or what may be called the plinth, having a band broader than the parts which receded.

As regards the body of the vase, where it springs from the base, or "foot" as it is technically called, the lines spring upwards, pointing towards the upper part or "neck" of the vase—embracing it, as it were—after the manner shown in the illustration of a vase given elsewhere. There is but little doubt that this principle of decoration was borrowed from nature, as in the growth of plants and flowers,



in which it will be found abundantly displayed and most suggestively illustrated. Those lines are, as seen in the illustration (fig. 1), sharp-pointed or lancet-formed. And above the termination of these there is usually a band encircling the vase. This band forms the base for the decoration of the body of the vase; and as a rule-with. of course, exceptions-the height of this band from the foot is about one-fourth or thereabouts of the height of the Above this line of the band the vase. principal decoration of the body (a) of the vase begins. This decoration was dictated by the use to which the vase was to be applied. A very frequent style of decoration employed for the ornamen-

tation of this part or body of the vase is what may be called the "processional," where a line of dancing fauns, satyrs, and vestal virgins encircle the vase. Such vases were in all probability designed for and used in religious processions and ceremonies.

Above the procession of figures, just on the shoulder or point where the body of the vase begins to taper into the neck, bands encircle the part. Those are usually ornamented with floral decorations within or between the bands. Then encircling the neck comes a series of bands, generally with pointed forms between. At and upon the lip comes the ornament known as the echinus moulding, or egg and tongue, the outline of which is the quarter round or ovolo.

The Principle involved in the Foregoing Remarks as to the Decoration of Form.

The reason why we have given these explicit remarks we would wish to make very obvious to the pupil, showing him the manner in which the Greeks decorated their vases in the way described, and which succeeding generations through many ages have felt and declared to be right. The student will observe that the decoration they employed in no wise interfered with the shape or form of the vase. If he has any difficulty in at first conceiving how decoration could alter form, he has only to consider that, by adding to the form of a vase lumps, so to designate them, of fruit and flower projections -to which we cannot honestly attach the name of ornament-it is by no means a difficult matter to alter the form of any vase, however elegant in its true or pure form. To put the point in an absurd, yet perfectly truthful way, one might make a vase assume the shape of an unhewn rock, or some grotesque fabulous animal. Examplestoo abundant, unfortunately-may be met with daily at present in the shop windows of our towns, the product of what is called "art manufacture." What claim to this title such monstrosities have, we leave the student to judge after what we have said and have yet to say. The only merit we see in such decorations-if so they may be called—is that they can be easily knocked off: a fate or result devoutly to be wished, as there would then be some chance of seeing what the original or true form was.

True Decoration does not interfere with the Nature or Utility of Form.

The above remarks must be taken as involving principles applicable to the decoration of the surfaces of all forms, although they are specifically illustrated by these forms known generally as vases. From these principles the special canon or rule to be deduced is this--namely, that no matter what the form may he, its decoration should never interfere with the purpose for which the object has been made. This may be here illustrated, and with a direct practical purpose, by a boat. This, the product of the inventive ability to design and the mechanical skill to construct which man possesses, is designed to overcome or master the physical difficulties arising from the known characteristics of water, which naturally presents obstacles to his progress of locomotion in going from place to place—in brief, to bridge over, so to say, what would be as impassable gulfs separating localities. And this bridging over of otherwise impassable spaces is done in such a way, that while we obtain facilities for progressing rapidly, we at the same time secure personal comfort in being kept from contact with the water, and comparatively absolute

safety from its known dangers. Now, a boat which thus serves the practical purposes of life, and in this sense may be looked upon as a thing of utility only, possesses other attributes. Amongst these, and specially standing out in the most marked manner, is this-that it is a "thing of beauty." What a boat displays in this way, and what other things, and grandly suggestive, a boat shows and teaches, let the remarks of Ruskin on this very subject testify. How deeply suggestive this to many minds the commonest of common things is, the reader will learn if he reads what this finest, as he is the most honest of all writers on art, says about it. If for the first time, he will no doubt to his surprise find, that there are things about so simple a thing as "only a boat," of which his philosophy had taken no previous cognisance. Now, the art student, if coming newly to the general subject of artistic treatment of objects, may think it a somewhat strange thing to talk of the decoration of a boat. But boats have from the earliest times been decorated, and decorated they often are now. And, apart altogether from the question as to the propriety or otherwise of decorating or ornamenting a boat, which, strictly speaking, is designed only to do hard work and withstand the buffets of wild wastes of water and of boisterous winds, we take its decoration as here simply, but as we think effectively, illustrating the point with the importance of which we are endeavouring to impress our readers. The decoration of a boat may be produced in two ways: first, by having ornament external to 'its surface; and second, by pierced apertures of various forms passing through its sides. Take first the external ornament. But a moment's consideration will suffice to convey to the student, that the first essential attribute of a boat, after the purposes of strength to contend with subtle yet ever powerful forces are secured, is that it shall glide easily, and so to say softly, through the waters, whether these be in calm or tormented by the fierce winds into a howling waste of restless waters. Now let the student conceive for a moment the effect of externally decorating a boat-on what we have called the "lumpy" principle—as illustrated in some of the forms of vases, etc., of modern art manufactures. The mere mechanical resistance offered to the boat's progress through the water, whether oar-impelled by force of sinewy arm or by the breezes of heaven, by these excrescences, or "lumps" of ornament so called, would obviously interfere with the principle of utility, which is the very raison d'être, or reason for the boat's existence. And thus this style of ornamenting or decorating a boat would, in the great principle we have been enforcing, be condemned. And this is altogether independent of the question fo the beauty of the form, which might be either carved out of the solid wood of the boat's timbers, or formed separately and mechanically attached or secured to its sides. Those forms might or might not be beautiful; but whether beautiful or not, they would, to put the point in bluff language, as befits the subject, have no business to be there. The same principle is illustrated in the second of the two styles, by which only we have said a boat can be decorated—namely, by pierced apertures made in its sides. Here again, as before, let the student conceive the effect of decoration of this kind upon a boat. We have said that one of the attributes of a boat is that it shall do its work quickly, that it shall receive the motive impulse of wind or muscle, so that none of it be lost or squandered away.

As illustrating the point that true decoration does not interfere with the nature or utility of form, we have just cited the case of a boat, and after drawing attention to certain points of this, we stated that none of its useful attributes must be done away or interfered with. While, therefore, we must not encumber its surface with forms which, however beautiful in themselves, would still be excrescences, so that its speed be interfered with, we must not pierce its sides with apertures, however graceful in outline they may be, through which the fierce waves could pass to endanger its safety. Now, however absurd such illustration as this last may, by some of our art student readers be considered, this much we may safely say in its favour: that it is not more absurd than illustrations taken from objects daily manufactured and sold to a placid public as articles of art manufacture of high value as artistic productions. If the reader will but think of and draw upon the stores of his observation, he will have no difficulty in bringing up the recollection of objects of art manufacture so called, which will amply justify our illustration as being as absurdly decorated in relation to their uses, as a boat would be with its sides pierced with ornamental apertures.

The Principles of Surface or Flat Decoration .- Outline and Colour.

Having thus directed the attention of the art student to the great principle which should dominate all his work in the direction of the form of solid bodies, or in "the round" as the technical term is, we now take up in like brief manner the subject of the decoration of *Flat Surfaces*. This is, of necessity, one which has a very wide range of objects. It embraces the decoration of walls, or of the paper pasted on them, which modern taste seems so universally to demand; it includes the whole range of textile fabrics, such as the carpets we cover the floors of our dwelling-houses with, and this with not always a strict observance of sanitary laws, and the numerous fabrics used in the clothing of our persons—the calicoes, the woollen goods, the silks and the velvets, as also the laces, which, if they do not always adorn the forms of beauty, serve, as cynics say, to minister to the love of display and foster vanity. So far, then, as to the scope of the subject.

The art student must at this stage take note that a very important point enters into the discussion of this subject of art treated as flat surfaces. Hitherto we have had only to consider the subject of form or outline. So also in the department under notice form or outline



is to be taken notice of; but another element comes also into existence as influencing the practice of decoration of flat surfaces—namely, *colour*.

The subject, then, divides itself into two departments of treatment —first, the outlines giving the form, shape or configuration of the flat surfaces, and second, the colour with which those surfaces are decorated or filled in. The student will of course understand that there are some subjects or designs which are in pure outline only —that is, upon flat surfaces—which designs are not coloured; just as there are some designs which are coloured, and it is to these last that the principle above indicated is applicable. But preceding the notes on coloured form, the illustration of the points connected with pure outline or flat surfaces only will first engage our attention.

Of Pure Outline or Form .--- Principles of Decoration.

Here the principle to be borne in mind may be stated thus. In a piece of well concerted music the notes must, so to say, flow into each other, so that no jarring discord be created—in other words, they must harmonise. So in forming any outline or configuration —or "pattern," to use the popular phrase—the lines making this up must flow into each other in such a way that, to employ the expression above used, they must "harmonise." What we mean



here by lines harmonising will best be explained by the following: Lines must flow into one another, so that when they meet, the junction of the two must not produce any harsh lines, such as a bend or knee or projecting part, as in fig. 2. This is further illustrated by the ornament called the "Greek honeysuckle," or *anthemion*, in fig. 3. This, the lower portion (a), we call the husk, and from this all the lines spring, each one of which flows into the husk in such a way that it would not if produced or lengthened either cut into the body of the husk, or proceed to the centre. When properly drawn it is compelled, so to say, to flow into the husk. In fig. 4 we give an illustration of the Assyrian *anthemion*, or honeysuckle. In the Greek form of this ornament the leaves or lobes are not uniform. but vary up in some instances to as high as fifteen, being decided apparently by the caprice or will of the designer; but in this the same principle of drawing the lines is carried out, so far as the ornament itself is considered, or rather its details. In the Assyrian anthemion the number of lobes or leaves is always seven—three on each side of the central lobe b—while the three lobes c c are joined as in the sketch fig. 4, not separated, as at b b in fig. 3. The lobes also in springing rise from a disc a, and not from a husk, as at a ain fig. 3. And each lobe is cut up or ornamented by the lines shown, which is called the water-mark. In fig. 5 we give another form of the Greek anthemion or honeysuckle ornament. In this the lobes a a do not spring from a husk, as at a a in fig. 3, but from b b, the



central point, c, between which terminates with a point as that of a leaf. The student must take special note of the principle here involved, inasmuch as it applies to the whole work of ornamental drawing of outline subjects. What is here true of the simple subject, as illustrated, is equally true of all subjects, however complicated. This important principle the student will find exemplified in any ornamental drawing correctly done he pleases to examine, but for the younger of our readers we have illustrated it by the foregoing sketch, fig. 3. A more detailed drawing of this will be found in its proper place in the companion work entitled "The Ornamental Draughtsman." In the simple sketch given in fig. 2 the young student will see how, if lines were incorrectly drawn, in place of flowing into the main line they might shoot off if produced or lengthened in some direction at any point, as shown, say at the dotted line *a* in the sketch. If he will also look amongst the subjects illustrating "The Ornamental Draughtsman" for that study in which the Greek scroll is first given, he will find this importance of harmony of lines further and most conclusively illustrated. Further illustrations and hints as to what is the technical part of ornamental drawing, or the manipulative execution, the pupil will find in the letterpress descriptive of the plates and figures given in the work entitled "The Ornamental Draughtsman." So also he will find in succeeding paragraphs of the present work illustrations showing the application of the general principles of design to what is called manufacturing or industrial art, and further description of the points now here enforced.

Colour in Decoration .--- Importance of the Subject.

In the preceding paragraphs we have directed the attention of the reader to various points connected with the application of form to the decoration of various objects. We have yet much to say on these points, but our remarks will come in more appropriately when we take up their practical application to various departments of decorative work, such as paper hangings, textile fabrics, as ribbons and printed calicoes and furniture stuffs, etc., etc. Meanwhile we have, as introductory to those subjects, and also as illustrative of various points of importance in itself, now to take up the subject of "colour."

To "Colour in Decoration—Importance of the Subject" we now direct our attention. Of all the gifts which a beneficent Creator has bestowed upon man, that of the appreciation of colour and delight in it is one of the greatest. While it is one of the simplest and most enjoyable, and which carries with it the purest of feeling, it is one also the most readily obtained, for it abounds everywhere, in the tints of the sky, in the green of the fields, and in the thousand tints and tones of the flowers with which their surfaces are covered. And one point in what may be called study of colour is very noticeable, that the delight which the musician finds in the harmony of sound, the student will find exemplified in the pleasure derivable from the harmony of tints and tones in all masses of colour.

Definition of the Term "Colour."

By colour we mean harmonised pigments, or what are popularly called paints or colours. Now, the primary colours, yellow, red, and blue, we call "pigments," and only to their harmonised combination do we permit the term "colour" to be applied. The young student should take special note of this; for to any combination of pigments

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which do not harmonise, the term colour, in its true or artistic sense, is not at all-certainly not correctly-applicable, any more than it is correct to call sounds which do not harmonise music-the very spirit or essence of which is, so to say, harmony. Hence the student will perceive that, in the true technical, artistic sense, a pigmentor what is popularly called a paint, or still more inaccurately a colour -- is only a constituent part of colour, not a colour itself---which, as above defined, is a "harmonised combination of pigments." We may illustrate this with some practical utility to the student, conveying, as it does, what is called a lesson, by the following incident. Two well-known men, high in position, were examining an object of art manufacture on which was depicted a certain subject: it was laid aside with the remark, "There is no colour in it." The salesman, so far from thinking it had no colour in it, was disposed to decide that there was quite too much of it. And in a sense he was right--that is, in the popular sense of the term colour. For the object displayed abundance of colour of one kind, the three objects constituting the design monopolising one of the three elementary colours or pigments, blue, yellow and red. Puzzled at this glaring evidence of colour enough being defined to be that which had "no colour in it," he asked an artist to explain the point. This was very soon done by giving what, in point of fact, we have already stated as the true principle deciding and defining true colour; for he said, "Colour in your sense of the term there is enough of, and more than enough, but it is made up of what we artists call pigments; in this object those pigments do not harmonise, therefore we say that it has no colour.

The Three "Primary Colours," or "Primaries" of the Chromatic Scale.

We shall now, in connection with the diagrams in the coloured plate entitled "The Chromatic Scale," explain the technical terms used in connection with the application of colour in the artistic sense to ornamental outlines for flat surfaces; but of course what is true of decorative subjects is true of all subjects in which colour is employed. When white or ordinary light is passed though a prism, it is reduced, so to say, to its component parts. Those are found to be three in number, and give what is popularly called three colours— (1) yellow, (2) red, and (3) blue. These, therefore, are called primary or elementary colours. When artificial or natural substances are employed to imitate these colours or hues, they are called, as we have said, pigments or paints. There is no pigment made by man, or known to him, which gives those colours *precisely* as they are shown in the prismatic reduction of light. Hence artists employing colour have to select those pigments which give the nearest approach to the prismatic hue, which may be called the standard colour. The young student will perceive, as closely bearing on the subject, the inaccuracy of the popular expression a "shade" of colour, the expression hue or tint, sometimes tone, being more accurate.

The "Secondary" and "Tertiary" Colours, or the "Secondaries" and the. "Tertiaries" of the Chromatic Scale.

The next scale to notice in the subject of colour is that connected with the "secondaries." By the term "secondary" is meant the combination of any two of the primary colours. Thus yellow and blue give (1) green, blue and red (2) purple, yellow and red (3) orange. These tints or hues, green, purple and orange, form the three "secondary" colours.

We now come to the third portion of the scale of colour, namely, the tertiaries—(1) citron, (2) russet, and (3) olive. They are called tertiaries because they are produced by the combination or admixture of two secondaries. Thus, by mixing green and orange we obtain (1) citron; by mixing purple and orange we get (2) russet; while a purple and green combination will give (3) olive.

The "Complementary Colours."-Definition of the Term.-Colours complementary to the Primary Colours.

We now take up the term "complementary" as applied to colour. By this is meant that the admixture of two primary colours is said to be the complementary colour to the remaining primary. Purple, for example, which is a combination of red and blue, is the complementary colour of yellow, the remaining or last of the primary colours. We are here presuming that the young reader is careful to remember that the primary, secondary and tertiary colours are, in all the three classes or departments of the "Chromatic Scale," made up of three in each, as shown in the Plate. Again, green, which, as a secondary, is a combination of yellow and blue, is the complementary colour of, or, simply stated, is complementary to red, which is the remaining primary. Orange, which is a combination of red and yellow, is complementary to blue, which is the third remaining primary. This simple rule for the guidance of the student should be carefully borne in mind: the colours making up the secondary leave but one primary, which is, of course, the complementary colour. Thus, in the above red and blue leave vellow, yellow and blue leave red, and lastly, red and yellow leave blue.

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The Colours complementary to the Secondary Colours.

Having thus given the colours which are complementary to the primaries, red, yellow and blue, we now proceed to give the complementaries to the secondary colours, that is, what is the relation the tertiaries—citron, russet, and olive—bear to the secondaries, which are purple, green, and orange. Thus "citron," which is composed of green and orange, is complementary to purple; "russet," a combination of purple and orange, is complementary to green; while "olive," which is made up of purple and green, is complementary to orange. By this exhaustive process the student should be able to see the relationship which the colours in all the three classes, and in any one special class of the three, bear to each other.

Importance of attending to Tone of Colours.

He must be careful, however, as to the *tone* of his colours. By this we mean, if his citron, for example, tends too much in the direction of the yellow, which is one of its constituents, then his purple, which is the complementary, in the same proportion must tend towards blue, so that the two will harmonise, which they will not do if while one is in excess the other is deficient, or its excess be in the wrong direction. Whenever the colour is in excess, or tends too much to one, the complementary colour must be in proportionate excess. If this harmony be not maintained, then his colours, or subject, will be either too "warm" or too "cold" in tone.

"Warm" and "Cold" in Colour.-What is conveyed by these Terms.

What is meant by these terms is explained thus. We call yellow and red "warm" colours, and blue and green "cold." But there is this distinction in this cold colour, which the reader must bear in mind—as in the case of green, which he will remember is a combination of yellow and blue. If the yellow predominates, it is called a "warm green." Again, in the case of a purple, if the tone tends too much to the red we call it a "warm purple"; if it tends too much to the blue we say that it is a "cold purple."

Applying these principles to the student's design, if the colours on it tend as a whole towards warm colour, we pronounce it to be as "warm in tone," if too cold the converse. In applying this colour to his ornamental arrangements of lines commonly called, although not always correctly so, his design, the first counsel we should give the pupil is this—that he should begin with the colours in the tertiary scale, as he will find it easier to get a harmonious combination than if he adopted a higher scale—tertiary, as he will by this time understand, being the lowest of the scales of colour, primary being the highest, while midway between the two stands the secondary scale. If the pupil wishes to see what a beautiful effect may be had by the employment of a low tone of colour—that is, colour in a lower scale—let him examine, or rather study, any good (this qualification is necessary now-a-days, when rubbish is so plentiful) specimen of Japanese coloured ornament. We refer here to Japanese art, in which, as a rule, low tones are prevalent, and their artists, working always in the low scale, are, we do not hesitate to say, the finest colour ornamentists in the world. They in this matter afford a striking and most instructive contrast to their near neighbours the Chinese, whose practice in this respect is precisely the reverse.

The True Shades and Tones of Colour only found in Natural Objects.—Defects of Colour in Pigments made by Man.

We have prepared for the young pupil a sheet illustrating the scales of colour, arranged in complementary order,-that is, under the yellow the purple is placed, under the red the green, and under the blue the orange. These scales are, however, in fact, merely mechanical, being concerned with the practical work of admixture of pigments, for flat tones. To get the true delicacy of colour we must refer the student to the combinations of colours as he finds them in nature. There only can be ever know what colour truly is. We shall have more to say of what this school teaches, and how its lessons may be learned. Meanwhile we would ask the pupil who may be douhtful as to the truth of our statement, to take up from the highway such a common object as a stone which may be lying there. Let him take this, then, and carefully and honestly study it, and he will, we feel assured, confess that he has seen developments of colour upon its tiny surface of which he had not formed, and could not without this experience have formed, even the slightest conception. Let him go further afield, or rather let him turn to his garden, and take up some favourite flower, or pluck from some no less favoured tree an apple, a pear, or a peach, and let him try to paint it, or rather to colour on his image of its contour what he sees on its actual surface. In this case also we feel assured that he will confess we have here set him out a task which he knows he never could perfectly fulfil if he coloured a lifetime. Some artists even, of no mean fame as such, have indeed lived long lives, have done much artistic work, and have died without even approaching, to their full satisfaction, what Nature shows us so lavishly and richly around us.

Important Points to be considered in connection with Colour in Natural Objects.—Variety not obtainable only when more than One Colour is present in the Object.—Variety of Shades or Tones even in One-coloured or Monotone Objects.

We have here referred only to the variety or the combination of colour which Nature displays in so many of her charming and, to a well constituted mind, ever beautiful objects. But the pupil must not suppose that she displays change, or, if you prefer it, variety of effects in objects, where there is more than one colour present. Quite the reverse of this is the fact. To prove it-and the lesson of the proof he will never forget, if he be thoughtful and wise for his years-let him take a lesson from an orange or a lemon. This is an object in which the colour is what is called a monotone—that is, there is only one colour in it. Well! no variety there? Closely study till you see it. We do not mean look at it only, for if the pupil remembers what has been said in various papers, looking at a thing is by no means seeing it. What, then, does he see in the orange or the lemon ? Let him, amongst other things, carefully observe the colour of the light on the front,—a strange expression to some who think of light as having no colour. Then the colour of the shadow,---a stranger expression still to those who only think of a shadow as something, and only, black. Next let him observefor he is sure to see, if he will but only truly look for it-the gradation of colour between the light and the shadow. And having really seen it, and drunk in, so to say, its beauty and its meaning, let him take his palette and his brush and try to imitate it. After some patient trial, we shall be much surprised if he does not also in this case confess that he sees a variety of colour of which he could have formed not even the faintest conception without having given to it the study we have here recommended him. On those points in the study of colour in the school of nature, and other illustrations showing perhaps more than one way of studying, we shall have somewhat more to say presently.

Great Powers of Patient Observation necessary to the Right Study of Colour and Colouring Effects of Nature.—Study essential to the Decorative Artist.

It is only right, however, here to remind him, or rather to enforce most strongly upon him this truth,—that the study of colour is one necessitating the outlay of much patience as regards time, and the exercise of a stern determination to know what can be learnt from it as regards mental discipline. Of time—for in truth a long life may be given to the study of colour as displayed in nature, and although one honestly learned much, at the end of it he would have sadly enough to confess, that he had still to learn vastly more. "How long," asked a lady amateur, of the class to whom all things are easy, of a celebrated artist-"How long will it be before I can colour like that ?" pointing the while to some work on the canvas on which the artist was engaged. "Well, madam," was the reply-"well, if you work eight hours a day, and for forty years, as I have done, you might then know something about it," emphasizing the "something" as indicative of the fact that the lady must not then expect to know all. In truth, the resources of Nature as regards colour are inexhaustible, and it may be accepted as a truth which admits of no dispute, an axiom in art, that it has been given to none, not even the brightest and best of her followers, to know all she can teach. The pupil, therefore, will perceive what he has before him, should he determine to be a truthful colourist. It is not enough that he should use colour,-any one with a brush and a pigment can do this after a fashion, -- it is essential that he should use colour truthfully, at the least that he should honestly endeavour to know what truth in colour is. And this truth, it cannot be too often repeated, is only learned in the school of nature; and how hard it is to learn we have tried to show.

So much as regards the demands on the patience of the pupil. A word only can here be given as to the discipline. We have said something already as to the habit of observation, and the difference there is between the looking at an object and the truly seeing it. "I cannot see," said a lady artist-another of the class we have above referred to-"I cannot see that colour," pointing to an object one of the greatest colourists of modern times was then painting. "No! madam," was the reply; "no! don't you wish you could ?" What in this anecdote we wish to draw attention to, is not so much the fact that the vast majority of people have not even this wish to see colour as it is, with which the great painter credited his critic,but this, that his very reply indicated that before she could see the colour she would have to learn to see it. The eye, like the mind, has in truth to be educated; mere native force and talent are worth much, but they are even at the best powerless for good work till their internal powers are trained. This culture of the eye is one demanding, then, what we have just said is essential-the exercise of stern determination to know what Nature is prepared to teach. We can do no more, however, for the present, than point out the direction of the path in which the pupil has to go. Progress in it depends on himself alone.

Patient, Observant Study of Nature essential to the Artist. In the remarks on the important subject of the employment of colour in industrial decorative work in the preceding paragraph, we said towards its conclusion, that the lessons to be learned about it in the school of Nature are inexhaustible, simply because her examples are infinite. It is impossible to overestimate the value of lessons there to be learned, or to say too much by way of impressing the student of design to make them the chief source of his knowledge of the subject. We cannot too earnestly advise him to make its observation, as it exists everywhere around him, a matter of close concern. Let him cultivate the habit of seeing colour--much rather should we say of observing it. We have already noted the difference between seeing or merely looking at natural objects, and the observing of them; and have quoted Goethe's remark, profound in practical wisdom, that the "eye only sees what it brings the power to see." The mere looking at a thing is a purely physical act, which one intuitively does, and, indeed, if they but open their eyes in the direction of an object, they cannot help seeing it-see the object they must; but observation is an act of the mind, and it is only when they truly observe that they truly see—that is, become conscious of the existence of the object, and form their own conclusions as to what it is and how it looks. This is what is called "intelligent observation," in popular and often indeed in critical language. But in truth the phrase is somewhat tautological, and in a sense as literally incorrect as to say light is light; for inasmuch as light must be light, so observation must be and is intelligent. You may look at a thing, and you must physically see it. This you cannot help doing; and yet all the same you really do not, in the true sense of the term, see it, for you are not even aware that you have seen it, and were you asked a minute or two after you had been gazing at it if you had seen it, you would be quite prepared to assert that you had seen no such thing. And quite honestly and truthfully would you assert so, for you had no intelligent perception of the existence of the object and what were its characteristics. You had looked at it, seen it, but you had not observed; and so far as receiving any true conception of it was concerned, you might as well, for anything you had learned about it, not have looked at it at all. But the moment you look at it with your mental faculties at work on it, you not only see, but you observe, and you therefore know it. To observe, therefore, must be an intellectual as well as a physical process-observation must be intelligent; and to use the phrase as if this combination were essential is as much to the purpose as to speak of a knowing savant. A savant must be knowing; he cannot he a savant without knowing. A man to be a savant in any special branch must know it.

The cultivation of this habit of observation we most earnestly press upon the pupil. No matter what be the particular branch of technical study or work, excellence will never be attained without observation. It is simply what is learned through it which constitutes the difference between the man who knows and the one who does not. And in reference to the special point of colour we are now concerned with, anything like a correct notion of what it is can only be gained by the habit of close and constant observation.

But the pupil in the art of industrial decoration must take special note of this, that because he observes an object-that is, sees it mentally as well as physically---it by no means follows that he sees or that he observes it correctly. He may, but he may not; but to help him to the "may," and convert it to his use, he has to bring to bear upon it the knowledge of others. And this, which is but the result of the experience and observation, he has to search its records This knowledge may be communicated to him orally by an for. intelligent teacher in general study. It is to be found in practical records; hence the phrase or proverb "all knowledge lies hid in books." We have endeavoured in the foregoing pages to communicate some of the knowledge which has been stored up by others-in other words, we have told him what is "known" on the subject of colour, with of course special reference only to its application to ornamental design.

While the pupil will derive some knowledge from what we have said on the subject of colour, and may have thus given him an idea of the direction in which he should further study, let us impress upon him again-and the advice can scarcely be too often repeated in the case of beginners-that he will learn more after mastering those first principles which we have in preceding sentences told him of-infinitely more by observing the effects of colour as displayed on all sides around him-than by years of study of books. And by way of encouragement to the young pupil, or one inexperienced in colour, upon whom we impress this close observation, let us tell him that he will be well repaid for such attention as it demands. This, indeed, is but poor and cold language to use in connection with the study of colour. While this study is to be applied in practice, in the actual manipulation of pigments applied to his designs, we have written the foregoing lines to little purpose if we have not convinced him that his school for the true study of colour lies in the world around him. And if this study be gone into by the pupil with an earnest and anxious desire conscientiously to apply the lessons which Nature will teach him, to look at things with a mind free from preconceived notions or pitiful prejudices, we feel thoroughly well

assured that he will thank us for urging the study upon him. At present, knowing, as we presume that he knows, but little of what colour is, and what every scene and every object in that scene can tell him about it, he can form no conception of what pleasure is before him. And this school for study is ever and always open to him; and but little time after he enters it all the notions which are attached to the terms school and study will have vanished, for he will find that of Nature a treasure house of delights.

He who has the power to *observe* colour as it is displayed in the innumerable objects of nature, and above all, he who can appreciate and enter, so to say, into the very soul of what colour 'teaches, has a gift or power which, as has been truly observed by one who himself has the gift in great perfection, "is worth specially thanking God for."

If the pupil sits down to this study "clothed and in his right mind," he may rest assured that he will learn more lessons practically useful to him in his work, from a single hour's observation of some particular scene or object, than he could possibly learn from days' practice in the school, or from the prosy prelections of some one learned in the art of colour—of the primaries, secondaries, and tertiaries—of complementary colours, etc., and the technical language of the class.

This ability to observe, this capacity to appreciate, colour as everywhere abounding in nature, is a gift bestowed naturally upon but few. But it is a gift, happily, which can in large measure be got. and in some senses so easily, that it may be said that it can be obtained simply by the looking for it and the study of nature. To say this is but to repeat that one has but to observe and to be content to observe, when the glories of the gift will be revealed to him. We have said that it is but few who possess the natural ability to see and appreciate the colour everywhere. It may, indeed, he safely asserted that the vast majority, even of educated people, have not the slightest conception of the endless varieties of colour, their tints and tones, as spread out everywhere around them. They tell you of the sky, that glorious canopy, that it is clear or that it is cloudy; of the sea, that it is rough or that it is smooth; and of the fields, that they are green or that they are brown or bare. But this is all they speak of, for it is all that they observe. Not content with an ignorance which deprives them of intellectual pleasures infinitely outweighing in value all those which are so highly valued by the world of everyday life, they deny flatly that beautiful effects exist at all, in sky, sea, or field. If those to whom these beauties are revealed in all their infinite depth of loveliness and of meaning,
happen to describe, or rather attempt to describe,-for of those beauties, such as they actually are, "nor tongue nor pen can tell "--what they have seen in the way of colour in nature, they are put down by nine out of ten of such people as mere enthusiasts, who fancy only that they have seen, but what they in their superior position know cannot exist. It must be so, they argue, for they have not seen such beauties; and surely if they did exist they could be seen by every one. To statements such as these—and we do not in any wise exaggerate them-what reply can be given, but that such people do not see what they so glibly deny the existence of, and that simply because they do not observe? They do not observe, first, because they do not wish to do so; and secondly, because they have not the faintest possible conception of what loveliness lies everywhere and always around them, but to them unrevealed. If they had some conception of this, we do believe that they would learn to observe,the which if they did we can well fancy them repeating the saying of the man of old, "This I know: I was blind, but lo! now I see ! "

So completely ignorant are many-we might almost safely say the great majority of people-as to what wonderful variety and loveliness of colour there is in natural sights and scenes, that, rudely as some deny the existence of this when one to whom this beauty has been made known attempts to describe it in words, they have still more pungent criticism to offer when an artist attempts to depict on paper or on canvas what he has seen in sky, sea, field or hillside, mountain scene or hoary cliff. Colours which have been made to the painter as clearly existent as the evidence of his own life are denied by these uninitiated people to have any existence at all. "Whoever," for example, "saw a green cloud in the sky?" they exclaim. Certainly they must never have seen what, if they only look intelligently and often enough, they will see-for sky lines will be seen by them as vividly green as the "grass which clothes the field." Others will be heard, in criticising a painting, to say "Whoever saw a rosy cloud like that over the surface of the sea?" Yet these, and an infinitely wider and in many instances to the popular mind more startling and incredible range of colours, tints, and tones exist. And if the feeble attempts of the best of our artists to convey by their canvas what they have themselves seen, are by the great majority of people denounced as "absurd and improbable fancies," what would be said if their canvas displayed the colours as they naturally existed? In nature such colours are so intense, so brilliant, possess such a depth of tone, or what we may call life, that no colour was or will he, we may with safety say, made by all man which would or could convey

even the faintest conception of the actual glory of the colour. And if the colour were ready to the hand of the artist, alas! his brush would be far from ready to put them to his canvas in such a way as to yield even some faint and feeble imitation of the loveliness he looked upon. The more nearly the picture approached what he saw in nature, the more decided the popular verdict would be, that he was just so much the better fitted to occupy a madhouse. "I am not mad, most noble Festus !" Alas! that no artist can complete the paraphrase, and say, "I but paint the colours of truth as they exist." For, as we have said, to no artist is given either the pigments or the power by which he could transfer to his canvas the marvellous brilliancy of scene, the depth of tint, the wonderful gradation of tone, which Nature not seldom displays to his delighted gaze. Need we wonder, then, that the public so generally and, alas! so ungenerously, ignore the "shadow" or simulacrum which at best the best artist can but give, when they resolutely close their eyes to, and will not look for, and therefore by true seeing believe in, the "substance" which Nature so lavishly provides in the colours which deck the sky, sea, and earth?

Mad! Let the pupil judge, after he has given a few weeks to the close study of what Nature actually shows him-is ready at all times to show him, although, of course, she has times and periods when she is more beautiful than at other times—when she pours down and out and around such a perfect flood of lovely colours, of infinite varieties and depths of tone and tint, that the artist can do nothing but silently gaze and drink in from the sea of beauty a full and free draught-a thirst which once created is ever being satisfied, yet still is never quenched. The pupil has not far to seek for supplies of If the sea, that object wonderful in all its moods, alike in that this. of placid calm as in that of restless storm, be denied him—and what the loss to him artistically only those who know it well can best tell -- if so also the glory and the gloom of high mountain or deep dell or glen-he will most likely have some green fields to look upon. But if even these be beyond his easy reach, at least in wide expanse or in great variety of surface, it will go hard indeed if he cannot command a small stretch of green, some few hundred yards of hedgerow or fence of garden or of field, of which to study what colour it displays. And if he fancies that this will be all too narrow a field for observation, let him take but a single yard of it, and, sitting down patiently to look for such effects of light and shade upon such colour as the fence bottom, to say nothing of the stem and foliage of the quickset or thorn which crowns it, looking right into the very soul, so to say, of it, with such power of concentrative observation

as he may possess; then, after some time given to this, let him honestly tell us what he thinks of this his field of study, which before he thought so narrow, so "bald and bare of beauty." To say nothing of form, is it really so bare and bald in colour ? Honest frankness will compel him to declare that if he could but warmly take to heart and wisely learn all the lessons which a foot or two of humble, rugged, despised roadside or garden fence or hedgerow taught him as to colour, he would be wise indeed. Some of our best artists have not had in their early days even so much as this could afford In narrow court or confined alley they spent their early them. days, and no green field gladdened their eyes. But to give a familiar illustration, — which yet teaches a truth by no means, alas! familiar to many,—like the old woman who took what she could get or had, and never lacked, so such artists took their lessons from such poor objects as lay around them; and from shade of grimy corner, or from dirty pool glinting in such scanty sunlight as could force its way between the narrow loopholes of confined alleys, they drank in more of what colour is and colour can do than other artists, with all the wide variety which travel can afford, were able to do.

And if, to the artist-pupil determined to know what colour is as painted in the pigments of nature hy Nature herself, he denied almost everything which constitutes "fields" of study for its observation, if he has the true artist spirit in him it will go hard indeed, as we have seen, if he cannot find some field which, however narrow its compass, will yield him food for study, wide opportunities for practice. But even where circumstances of life are thus unfortunate, such are now the facilities for travel, alike in speed and in moderate cost, and such, under modern social life, the time now given even to the humblest of handicraftsmen, that now and then an opportunity will be given of gazing upon wide expanses of natural beauties. From an hour or two's study of the seashore he may, under favourable circumstances, derive hints and obtain lessons in colour which may give him matter of thought and of work in his attempts to realise all he has seen; and the mere memory of the beauties of which will be solace in many a trouble, a delight for long to think over, for a "thing of beauty is a joy for ever." And what beauty there is in sea and sky let those tell-for they alone know-who have watched them for hours and days, in storm, in calm, in sunshine, and in gloom.

Such a "joy for ever" is the memory of one evening, the last of a long term of Continental travel, which the writer of these lines had the privilege to enjoy, sitting by the margin of the sea. He was accompanied by an artist—one himself an ardent lover of

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nature, as all true artists must be—and they were about to terminate a lengthened artistic tour amongst some of the loveliest scenery of the Continent. The whole tour might be said to be one long and ever-varied lesson in colour. They were favoured with the finest of artistic weather. The pupil will by this term understand, not that it was the finest weather in a popular sense—that is, with cloudless skies—but one which gave those changes, that play of light and shade, that alternation of cloud and bright sunshine, and all those varieties of condition which best display what artists call atmospheric effects. And in connection with the scenery they strolled and studied amongst—scenery almost, if not quite unique in beauty—the effect of weather such as this, and so long continued, was as charming in its sense of physical enjoyment as it abounded in lessons in colour and in hints and suggestions as to how to apply it in practice.

The evening we have above alluded to was one of those quiet and placid times when the air is so balmy that one feels thankful to be out, and to be permitted to breathe the open air. The sun was not far from setting, the tide was well out, and the sea itself as calm almost and placid as a land-locked lake. There was, however, just such a suspicion of a breeze that the water surface was here and there rippled into what under the sunlight might be called a shimmering sheen. This word "shimmering" is, in fact, the only one which in our language conveys a precise notion of the effect produced. The terms glinting or glancing, or the French brillant, may also convey the notion. A few boats of various sizes lay some at anchor, dotted here and there, others car or sail impelled and of the pleasure kind, rowed along from time to time, giving objects which yielded striking effects in rich colour and in light and shade. The sky was a truly artistic one: here there were large masses of white-cliff-shaped clouds of the class known as cumuli. Here the sky was cloudless—there light fleecy clouds known as the cirri lay floating in the azure deep. A few of those now obscured, now opened up the sunlight. The effect of this on the water was indescribably fine. We use this term with a purpose, for our pen is not competent to give even a faint conception of the beauties we had unfolded to us as we sat and gazed. The pen even of Ruskin, the greatest word-painter, as he is in spirit amongst the truest of our artists, would fail to describe adequately what those beauties were. At the best-and our best must be of the poorest-we can only try to tell what we saw.

The tide, as we have said, was well out, so that the margin where the water, shallowing out on the flattish beach, came up to join with knife edge the ribbed sands, was at some considerable distance

from us. The sun was exactly before us, and at no great height from the horizon. A change in the position of the light clouds partially-and only partially-obscuring the sunlight, opened suddenly up what may be called a lane of light, going right up to and widening-ever widening-as it reached the horizon. If any of our readers have ever had the good fortune to look into one of the re-heating furnaces used in our steel manufacture, or in working up steel into various objects, at the time when the steel masses have reached the melting point, or when their surfaces are becoming fused, they will have, and we believe they are those only who can have, any idea of the lovely white or bluish white of the surface of the "lane of light" we have just described as being opened up before Add to the effect of this colour that of the shimmering sheen us. of the surface we have also alluded to, and the pupil will have some notion of what we had before us if we describe it as a sea of molten silver burnished to the brightest, with an infinite variety of ripples in its surface, as if it were rising everywhere in boiling bubbles glistering in brilliancy. But this was not all, much as it was. Near to where the lane of light was terminated at the horizon, this plain of molten silver seemed to rise up and form a kind of swelling hill or gentle acclivity. This was crowned with a band or strip of cloud, as we may call it, of the loveliest rosy light. The way in which this changed, as if it seemed to be swayed to and fro by gentlest breeze, and the varying tint or tone thus given to the mass, was singularly striking. In trying to picture the beauties of the scene, we may here in continuation remark that what we then said did not complete those beauties. A light long strip of cloud passing athwart or across the sun threw a band of dark shadow right across the line of light—the sea of silver—somewhere about the middle of its length, from sand margin to heaven. Here, along and above this band, we had a cloud, now purple, now violet, now rose-coloured. But the interchanges, so to call them, of these colours were not abrupt, as the pupil not yet initiated into the study of colour might suppose, but gradually blended into each other in such a delicate way that it was difficult to say at what point the one colour or tint ended and the other began. This wonderful display of the loveliness of natural effects, which we are but too conscious of having failed miserably in an attempt to describe, did not, however, only afford many lessons of the most directly useful kind as regards colour and many of its characteristics; it yielded other lessons of quite as practical a character useful to the pupil in design. What those or some of the most suggestive of them were or are, we shall glance at presently.

Gradation in Colour

The preceding paragraphs were taken up chiefly in pointing out the extreme value of the lessons which can be obtained in colour and its characteristics by close study in what has been called the school of nature,-the only school, in fact, in which true or right study of this subject vitally important to the design of industrial decoration can be studied. In attempting to describe a natural scene in which some beautifully suggestive and striking effects in colour were observable, we at the conclusion of the last paragraph pointed out to the pupil one characteristic-namely, the gradation of colour-in other words, the complete absence of all abruptness in the intermixture. We can get no other word than this to us unsatisfactory one of the many-coloured cloud which hovered over the shimmering waves of that lovely sea. Now, this gradation is a principle, so to call it, existing in natural objects, and is characteristic in them alike in form and colour. And if the pupil in art has as yet missed observing and noting it, he has still to learn a lesson of the highest value to him in his practice. To some, indeed, although pointed patiently out by their "master," the point never becomes clear, at least clear in all its subtilty; and this being so, is precisely the reason why such pupils in art never do become in the correct sense, or for the matter of that in any sense of the term, true artists-certainly not true colourists. Copyists they may be, and clever ones too, but "only this, and nothing more." We believe, however, that our readers have an ambition to belong to the higher of the two classes here named; and this being so, the vouthful or beginners amongst them will, we feel assured, be but too anxious to obtain all the lessons which a knowledge of this principle of "gradation" or absence of abruptness in natural effects is so well calculated to afford. We have already made pointed reference to this as regards colour, but it is no less true of formalthough, perhaps, more observable in the case of colour. "And yet it may well be doubted whether it is observable to many: probably the most accurate way of putting the matter is to say that it is observable to the few only—those only who observe. For it is there to be seen if we only look to see it; but, as it has been already stated in more places than one in those sections in this work which treat more or less directly on art subjects, this capability to see must be cultivated. The eye, like the ear, has to be educated. And on this point of the gradation of colour it is difficult to over-estimate the value of the lessons in colour which Nature gives in such lavish and lovely profusion. This principle of gradation in colour is, however, one which to understand, must be studied in the book of nature

itself; it is not one in which much can be definitely said here in ordinary book fashion. The very subtilty of the effects in nature which is one of the chief characteristics, if it be not the chief feature of this, precludes the possibility of giving a written or a viva-voce explanation of them. They must be seen in nature to be understood, and happy the artist who can so understand as to gain lessons from them. On this, the chief characteristic of gradation in natural colour, if we wish to give expression to it, we must go, as so many have gone before us, to find it in the words of the ablest, as he is the most graphic and graceful exponent of art subjects, John "What curvature," says this great writer in his "Modern Ruskin. Painters," "is to lines, gradation is to shade and colours. It is their infinity, and divides them into an infinite number of degrees. Absolutely without gradation no natural surface can possibly be. except under circumstances of so rare a conjunction as to amount to a lusus nature. . . . For instances of the complete absence of gradation we must look to man's work, or to his disease and decrepitude. Compare the gradated colours of the rainbow with the stripes of a target, and the gradual deepening of the youthful bloom in the cheek, with an abrupt patch of rouge, or with the sharply drawn veins of old age. Gradation," he goes on to say, "gradation is so inseparable a quality of all natural shade, that the eye refuses, in painting, to understand a shadow which appears without it; while. on the other hand, nearly all the gradations of nature are so subtle, and between degrees of tint so slightly separated, that no human hand can in any wise equal, or do anything more than suggest the idea of them. In proportion to the space over which the gradation extends, and to its invisible subtlety, is its grandeur; and in proportion to its narrow limits and violent degrees, its vulgarity." How often this vulgarity is displayed in such attempts at colour as many of our art-decorators make in trying to add the beauty of colour to our surroundings, let the experience of the past generation or two, and, indeed, we may say, of the present one, tell us. True. our art-decorators do not, many of them, treat us much or often with the effects of colour; for it is one of the unhappy characteristics of the times we live in, that we have lost, in very large measure, that love of colour, and that sense of the healthy mental and, we might say, moral influences which colour widely and wisely used can impart, and which our ancestors, specially those of the middle ages, possessed in so great a degree. The great authority we have already quoted speaks truly when he speaks of the sacredness of colour, and that it is of necessity connected with all purity of mind and nobleness of feeling. He tells us to "consider for a little while what sort

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of a world it would be if all flowers were grey, all leaves black, and the sky brown. . . . Then observe how constantly innocent things are bright in colour: look at a dove's neck, and compare it with the grey back of the viper." Taking a wide view of the subject-for, as our authority says, if there were no exceptions to this rule, "it would be more convincing than the lessons of the natural universe are intended to he "-taking a wider view, let us "compare generally rainbows, sunrises, roses, violets, butterflies, birds, gold-fish, rubies, opals, and corals, with alligators, hippopotami, lions, wolves, bears, swine, sharks, slugs, bones, fungi, fogs, and corrupting, stinging, destroying things in general;" and we shall find then "how the question stands between the colourists and chiaroscurists, which of them have nature and life on their side, and which have sin and death." And we may here note that a well-known-but too wellknown and but too much admired by a certain class, unfortunately -school of art gives a very striking illustration of the truth shadowed forth in the last sentence of our great authority. For this school of painters, happily not indigenous to this country, but flourishing chiefly, if not wholly, on the Continent, which, admittedly and for the most part shamelessly, so far as some of its members are concerned, dealing with subjects which minister to the depraved tendencies of our nature, produce subjects noticeably deficient in the effects of pure colour, and where colour is employed at all it is of those browns and greys which are generally the exponents of hurtful things, of death-like, deadly influences. ""All men," to return to our great authority, "all men completely organised and justly tempered enjoy colour; it is meant for the perpetual comfort and delight of the human heart; it is richly bestowed on the highest works of creation, and the eminent sign and seal of perfection in them; being associated with life in the human body, with light in the sky, with purity and hardness in the earth; death, night, and pollution of all kinds being colourless."

Gradation of Form.

So marked a feature is this gradation of tone and tint of all natural objects, that, comparatively seldom as absolutely flat surfaces are found in nature, the majority of objects having surfaces of curvature more or less decided, even such surfaces, as so clearly pointed out by Mr. Ruskin, are furnished, so to say, with this effect of gradation, the means being "provided in local colour, aërial perspective, reflected lights, etc., from which it is but barely conceivable that they should ever escape." Natural effects can best, can indeed only be seen, and the lessons they teach only be learned, by going to Nature herself—a truth not quite so obvious to many, absolute truth though it be, to judge from the fact that they rarely go to Nature at all, preferring to study in such fashion as they can from models and copies; and not always from these, at least not from admittedly good ones, preferring as they do sometimes to follow the lead of what they call or conceive to be their "own genius," which, "will-o'the-wisp" like, but too frequently leads them into the morass and the quagmire of weakness, inefficency, and often to absolute artistic death. We feel assured that none even of our most youthful and inexperienced artist readers will ever be led away by any such specious, yet, it must be confessed, to human nature but too attractive notion of their own ability, to dispense with the unobtrusive but always great and striking lessons which Nature is ever so ready to give to her patient, willing, and receptive students.

To Nature herself the student must go to learn those lessons which have the only claim to be considered as artistic. Class "copies" and school "casts" are of great service to the artistic pupil, and cannot, any more than the lessons of the teachers, be dispensed with; but they are only useful in their place. And it is ever to be remembered—what, however, by too many is willingly, at least easily enough forgotten—that what is good in drawing copies and in casts or models is derived from Nature. As from Nature, therefore, all good and true artistic inspirations—as expressed in pictures, drawings, or casts—come, it is obviously only a common-sense, businesslike proceeding to go as often as we can to learn, if it may be, some lessons which will supplement the good, if they do not supplant, as it is to be hoped they will, the bad or defective teachings of the class, or of study and private practice.

We have said in last paragraph but one that the effects of gradation are observable more or less decidedly in all natural objects, even in those comparatively few in which the surfaces are flat. We have shown how even in such flat surfaces this gradation is provided for and secured; and the artistic pupil will not regret if such opportunities as may fortunately be within his reach be availed of to study such effects in nature as will be met with in mountainous districts and those localities on our island coasts where grand and imposing sea-shore and cliff effects are to be met with. Let him take the face of the flattest of overhanging or perpendicular cliffs which frowns over green-grassed valley or sand-ribhed sea-beach, and closely study what he sees on it and from it, as he views it at various and varying distances. It will go hard indeed, if only he have the faculty of seeing, if he does not learn some striking lessons from his study : he will at least see the difference between some flat surface of man's

work-as, for example, some railway viaduct or bridge-and the flat surface which Nature, with her silent and subtle effects, produces. Our practical men, who pride themselves on being such only and nothing more, are but slow to take such lessons as Nature so lavishly affords us; the probability being, however, that many of those same practical men have not the remotest conception that Nature has lessons which they might with advantage learn; or, if they were told she had, would probably pooh-pooh the notion that their work could in any wise be improved by her. Knowing their work, and how they did it, we may say with some degree of certainty that if the mediæval architect-there were no railway and other engineers in the dark ages, in many things falsely and in gross ignorance so called-had had to deal with the spanning of streets with such material as the modern railway engineer now deals with, they at least would have tried to spare the passers by the nightmare of staring ugliness which our work so liberally gives us. The mediæval constructor would have shown, if not by variety in form at least by effective colour, how such flat surfaces could have been so dignified as to be a delight to look at; in place of, as they do with us, depressing with their bald and staring uniformity of ugly surface.

And if this principle or feature of gradation in shade and colour gives such an infinite variety and an ever delightful and delighting charm to natural objects, no less a charm is imparted, not one by the feature of curvature in form, but the way in which that curvature is gradated or graduated. That curvature is an essential characteristic of natural objects is obvious to all patient observers of them, to all close students of their peculiarities. There is no end to the series of valuable lessons which the art student will gain by a close and honest inquiry into and an examination of the "subtlety and constancy of curvature in all natural forms what mover." There are, doubtless, examples enough of straight or right lines in natural objects, but in many these are only "suggestive, not actual," and they are all, as one great master in art points out, necessary, as "without them we could not be sensible of the value of the contrasting curves." While, therefore, the youthful art student must, as part of his preliminary practice, learn to draw curved lines in the widest variety, in some such system as he will find most fully illustrated in the volume entitled "The Ornamental Draughtsman," he must go to Nature to learn what curvature really is, and to gain from her lessons as to strength, originality and purity of expression in design.

In the interests of our youthful art-student readers, and for the matter of that for those of some students of an older growth, it is

scarcely possible to dwell overmuch on the importance of studying nature as a source of that artistic inspiration, or as forming the surest basis or foundation for good work in higher branches, in the importance of beginning at least to closely study the minuter objects of nature. This must at least be said for, in addition to what we have already said of them,-that they are for the most part within easy reach of every art student. Neither the means nor the time is given to every student to study nature in its grandest aspects, by river-bank, sea-shore, or in mountain range. But as the little gifts and graces of humanity are within the bestowal of those who in "the huts of poor men lie," so are the minor marvels of nature within the reach of most. We have seen what lesson may be obtained from the stones of the wayside; they can be gathered as readily from the grass of the field. Fit only to be trodden under foot, nibbled at by the frisky lamb or cropt by the patient cow,-not much surely in it of lessons for the art student? No! if looked at as most of us look at it, without either bestowing a thought upon the graciousness of its gifts to man, or deeming, indeed, that it is worth at all looking at-giving, in truth, no thought whatever to it, save, perhaps, that it is soft to walk upon, or in good order for a game of lawn tennis, cricket, or croquet. Yes! if looked at with the seeing eye or the eye desirous to see. Not much, perhaps, it may be thought to show in winter-time, when brushed by cold sweeping rains, or covered tenderly with wreaths of hoar frost, but even then as rich in its artistic as in its intellectual and moral lessons. But what of it when the warm winds of spring and its gentle showers have brought upon its blades a fresher green, a lovelier tint and hue? and what of it when buttercups and daisies, wild anemones and shooting hyacinths or bluebells, make it a perfect plain of delight, a veritable field of cloth of gold, of silver, of opal, of emerald, and of amethyst? But if in its wide expanse a thing thus of beauty to the eye, a joy for ever to the pure of mind, the which if an artist could display on canvas as it is would give him a place in art which no artist, the best who ever lived, has yet occupied, it is no less a suggestive field for study when taken in detail-all the better, perhaps, studied thus. A single clump might be said to be the study of a season; and in truth no season, however long, would give ample scope and verge enough to gather all its lessons, which have been well said by a keen observer to be work enough for an artistic life. A single blade will, indeed, give a few lessons of worth to the art student. Not much to look at truly. "Nothing, as it seems, there of notable goodness or beauty: a very little strength, and a very little tallness, and a few delicate long lines ending in a point." Not

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much to look at, but so much to paint or draw, that if our youthful art student could but paint it as it is, he, though doing thus a little thing, would have high claim to be considered a truly great artist. It may well be doubted, indeed, whether any painter, living or dead, has ever given us a true picture of the lowly and despised grass, "made, as it seems, only to be trodden on to-day, and to-morrow only to be cast into the oven" or thrown upon the dung heap. "And yet think of it well," says one who has as keen an eye, a love as warm for the grass of the field as for the grander developments of natural beauties, "yet think of it well, and judge whether of all gorgeous flowers that beam in summer air, and of all strong and goodly trees, pleasant to the eyes or good for food-stately palm and pine, strong ash and oak, scented citron, burdened vine-there be any by man so deeply loved, by God so highly graced, as that narrow point of feeble green." Need we say that there is but one art critic who has written about and seen so much in grass as this and more. The more the art student learns to love the things of nature, the more clearly he sees in them the evidences of the beneficence of the great Creator, the higher and the wider will be the sources of his art inspirations. The writer of these lines is a profound believer in the truth that the better a man is, the better an artist he will bealways, of course, supposing that he has the true artist feeling and capabilities of doing work. And that work must be all the more valuable, as it would be the more valued, the purer, the nobler his thoughts. Impure minds cannot from the very nature of things give out pure thoughts and do pure work. As the fountain, so the waters which flow from it. And if the great art critic whom we are proud to own as a master in the Israel of art had done nothing else than to point out, in language which is in itself a delight to read-"thoughts that breathe and words that burn"-the true sources of high and noble thought in art, and how best to attain to ability and purity in work, the world of art is under obligations to him which it will be difficult indeed to repay. It is not so easy for even the best, amidst the clash and clang of warring interests, the temptations of selfishness and the urging of vanity, to keep the banner of our honour unsullied; but what it is good for us to be warned, as our great authority warns us against, are those evil influences surrounding us, which, as numerous as they are powerful, are ever urging us to courses in life which, in place of making us better men, are but too apt, to use his own words, so to act upon us that "heavenly hope may grow faint amidst the full fruition of the world; that selfishness may take place of undemanded devotion, compassion be lost in vainglory, and love in dissimulation; that encryation may succeed to

strength, apathy to patience; and the noise of jarring words and the foulness of dark thoughts to the earnest purity of the girded loins and the burning lamp." As we have said, so again we repeat, we are ambitious for our young students to whom is intrusted the art of the future. Art has done much in times past, but it may do yet vastly more in the times to come, in elevating the tone, ministering to the higher intellect, and in nourishing purity of thought and earnestness of purpose in the great mass of the general public, much of which has as yet been untouched by the leaven of a higher life. But art can only do this when it is itself pure, and the exponent of those higher feelings and nobler aspirations without which its followers can never do the highest work which will exert the influence in the future which we have named.

All this may appear to some of our readers as having but little, if indeed anything, to do with the subject of art decoration. We have in truth written but in vain if this be so. Nevertheless we are bold enough to maintain the assurance that it will not appear thus to the majority, certainly not to the thoughtful amongst our To them at least the truth of all we have said will be readers. clearly perceived, nor less its application to the purposes of our volume. These purposes will have been but poorly served if we have in any measure lost sight of the fact that the mere execution of the art student is not all that is to be thought of,---if in any way however slight, or by any words however feeble, we have given our readers to suppose that all that is required in the art student is the capability to do what may be truly called the merely mechanical part of his work. Assuredly our purpose has, from all we have said, been vastly different from this. The facility of finger to commit to canvas, to wall surface or to paper, the forms and figures the eye sees, or fancies it sees, is right enough in its place: it cannot possibly be dispensed with. But while drawing is in itself indispensable, drawing is not all. Nay, at the best it is but, so to say, as the tools with which the workman shapes his materials into form. But what that form is depends upon higher attributes. Design comes in here. to give the stamp of value to his work; and, as elsewhere in the pages of this work it has been shown, design in its only one and true sense is dependent upon thought for its existence. Drawing and design as such are therefore quite different things, although in perfect work the two must go and be together. But of the two-although some, we know, will think differently-the work which is deficient in drawing, yet shows in every line the evidence of design, is of far higher value than that in which every line is drawn with that accurate precision which gains prizes and certificates, yet is but the

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evidence of a capability of copying and nothing more. Some of the work of the old masters in the decorative art of materials which we now call industrial—as glass, gold and silver, iron and wood—are, when judged by the mere mechanic's standard, wofully deficient. Some of our youngest apprentices could, to use a graphic if a familiar expression, "beat them hollow." But as works of true art—that is, as strong evidences of thought, of design—they stand so high that they are models for all time of what decorative art in such materials should be. We cannot therefore possibly have done wrong to insist —the wrong to our readers would have been had we refrained from insisting—upon the art student having the highest aims in his work, upon the absolute necessity which exists that he shall so study that those aims shall be secured, and so cultivate those sources of inspiration in art from which only those higher aims can be best attained.

Effect of Distance in Drawing Objects.

From what has been said as to the close study of Nature, in order to draw from her those lessons in art which she alone is capable of giving in such profusion of wealth and with such fulness and directness of purpose, it will be by the intelligent reader clearly enough perceived by this time, as he will have intelligently followed us, that this study depends much, if not wholly, upon his ability to observeto see. It will also have been made clear that this faculty of observation, of seeing things in nature as they are, is very much a matter of education. To few only-and these are emphatically the "seers" in more ways than one-is the faculty given of going right to the heart, the centre, the soul of things visible in the created world around us. It is not given to every one to take in the varieties, or rather, as we should say, the true characteristics of form, to understand the mysteries and appreciate the delights of colour. But, as we have said, those things can be gained, though gained only by keen and close observation. And, as we have also said, one way to gain them-some maintain that it is the only way-is to begin with the study of the minuter objects in nature, going from them to grander developments in form, light and shade, and colour. But there are several points in the matter of seeing or observing natural objects which it is necessary the student should be careful in noting and giving earnest heed to. One of these is that the same object does not present the same artistic or natural characteristics-for our purposes we take these terms to be synonymous or convertible expressions-when viewed from "differing distances." The aspect which a rock or a tree assumes when viewed from one distance is quite different from that which it offers to the eye of the artist when observed

from another distance. This is quite different, be it marked, from the effect of looking at the same object from different points of view; for it will be at once obvious that the mere form of the object may be, and very likely will be, seen from one point, quite different from that seen from another point of view. And as with the form, so with the light and shade and the tones or tints of colour. The mere change of position will give to the eye of the artist light-andshade and colour effects which will be so strikingly different from what he had seen before, that the most indifferent or apathetic may be startled into some activity of thought and clearness of observation or keenness of sight. But although this effect of change of position or point of view is one which the art student must take every available opportunity to study, and studying to understand, it is to be noted here that it is one quite different in its features and results from that which we have named above-that is, the change in the appearance of a natural object brought out by the mere change in the distance from which it is viewed. Thus, it is true that "for every distance from the eye there is a peculiar kind of beauty, or a different system of lines of form; the sight of that beauty is reserved for that distance, and for that alone. If you approach nearer, that kind of beauty is lost, and another succeeds, to be disorganised and reduced by strange and incomprehensible means and appliances in its turn."

Ths Artistic Effects of Natural Objects.

From this, and from what we have otherwise and elsewhere stated in this volume and that under the head of "The Ornamental Draughtsman," enough has been given to impart to the youthful student in art decoration some conception of what work is before him in his study of nature and of what are called the artistic effects of natural objects, when properly looked at or seen. A somewhat contradictory-that we are generally taught in the schools that art and nature are two totally different things, if not quite, at least greatly, contradictory. And although the dictum is reiterated and enforced by many writers out of school, it nevertheless is the fact that true artistic feeling and expression—the reader will note the word we have italicised—is that only which is natural or derived, and more or less directly displayed from nature. Nor must the art student, in his study of the special subject for the purposes of which this volume has been written, for a moment conceive that the lessons which we have shown can be derived from nature in artistic work have little or nothing to do with the special application of artistic knowledge to

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the decoration of industrial materials or work. It is not so now, or at best but in a meagre, moderate way; but in times past it was that our first artists, our greatest painters, did not disdain to show their powers, not merely in the decoration of the wide expanses of grand walls and ceilings of palaces, but in the design of a casket or the decoration of a cabinet which might grace and beautify, and in so doing enrich in a high sense, the modest apartment of a burgomaster. And when a higher and more noble knowledge of what art is, and what its mission to the people is, obtains amongst artists, we shall have a return of such times as those we have alluded to. And when we think what those old and bygone days were considered from the artistic point of view, there is much need also for those interested, or said to be interested in art now, to push the inquiry, so that, if possible, some answer, if only but a partial one, be obtained to the question. How is it that art has not the same influence, does not occupy as wide a field now, as it did then? When we fairly settle in ourselves to solve this question, determined that we shall obtain the true reply to it, we greatly fear that the evidence which will be obtained from all sides will be as little flattering to our vanity as it will be complimentary to our earnestness of thought and our purity of purpose. Nevertheless we have so far advanced in integrity of artistic purpose, and in what we may call the honesty of artistic life. that we may fairly cherish the hope that we are about to enter, if indeed there are not signs enough around us that we have already entered, upon a new phase of artistic (natural) life, which will in its work affect, as it will in proportion to its earnestness dignify, the existence or daily life of all classes, not less the poor and humble than the rich if not the vain. Far from hopeless, then, is the outlook of the future; but the more likely is the hope to be realised if the individual artist determines that in his walk of life, however narrow, in his circle of influence, however circumscribed, he will do his share of this work of the future wholly independent of what is done by others, not measuring his efforts by what he sees of those of others. The day of the realisation of any hope never comes when the work which can alone bring it about is put aside because we wait for the work of others. It is individual effort which forms collective and completed work.

In this work of the individual, in which alone rests the hope of the future of artistic work in industrial decoration, there are many points which come up for close consideration. To some of those, and perhaps the most important, we have drawn attention more or less complete. But one or two still remain to be glanced at. We have said much about colour and its application to artistic decorationmuch also as to form, and what can be taught respecting them by nature; and much more could be said-for the subject, like the examples of it which abound in nature, are inexhaustible and varied as they are infinite. But one thing is to our mind very clear: that neither noble nor pure work-if, indeed, the two attributes of nobility and purity can be separated-will be secured without nobility of thought and purity of purpose. As the outlines of the face and the play of expression in its features may and often do-although in this, as in other things, facts belie experiences—give a trustworthy key or clue to the intellectual and moral character of a man, so it may be said, as indeed it will not seldom be found, that the colourwork of a decorative artist gives the key to his character. For just as we know, beyond any doubt, that a man habitually given to the utterance, even in connection with the most trivial circumstances, of impure words, has a mind filled with impure thoughts, so also may we decide with almost equal certainty that certain combinations of colour or a certain style of colouring habitually employed by some artists-for example, in cold, gloomy greys or browns, or in dashes of what should be hrighter colours, but which heing impure in tonc, are not bright, but lifeless-give us a fair key to the intellectual. and above all, moral character of the artists themselves. A pure mind animated by noble thoughts and aiming at the highest purposes will be certain to give pure effects. We have had to examine decorative work designed for wall surfaces the very colour of which told the tale of the mind of the artist-it being almost impossible to conclude otherwise than that he had an impure mind. And the effect on the minds of those who were condemned daily to look upon that decorated surface could not have been otherwise than depressing, even if it were not essentially degrading. Some may think-a few possibly (we hope but a very few) may go the length to say-that art has little or indeed nothing to do with moral considerations ; that a thoroughly worthless and bad man may be a very good artistmay, indeed, be able to point to certain examples in proof of this. There can, however, be no greater mistake made by the young artist than this, and it will be well for him if he is not misled by the miserable sophistry of those who maintain it to be true. There is art and art-the true, the noble, and the false and monstrous. The tendency of true art is to elevate the mind and purify the affections; that of false art, even at its best, tends only to tickle the fancy, at its worst tends to lower the moral tone. It is an easy matter to find the truth of this exemplified in the works of the old masters; we do not mean by this term their paintings—popularly pictures but their decorative work, although both classes of work may be

cited as examples of the truth of the position we have put. Our great authority—for none can be greater than he in all that is connected with the morality of art, which we at least look upon as its life-has some fine and noble remarks upon this, maintaining that the "purest and most thoughtful minds are those who love colour the most," and that the "more faithful and earnest the religion of the painter, the more pure and prevalent is the system of his colour. . . . And it will be found that so surely as a painter is irreligious, thoughtless, or obscene in disposition, so surely is his colouring cold, gloomy, and valueless." As examples of the "opposite poles" of art in this respect he quotes the cases of Fra Angelico and Salvator Rosa. Of the work of the first-named, a man who "never harboured an impure thought," he says that his pictures are "simply so many pieces of jewellery, the colours of the draperies being perfectly pure." Of the work of the second artist named, "a man who spent his life in masquery and revelry," he says "his pictures are full of horror, and their colour for the most part gloomy grey": and our authority concludes by saying that "those are no singular instances. I know," he says, "of no law more severely without exception than this of the connection of pure colour with profound and noble thought." We have in another part of this volume referred to a certain "school" of Continental colourists whose work may also be taken as proof of this law. This work, almost without exception, if not degraded to a terribly low degree in subject, is always in colour of the most depressing character-depressing almost to repulsiveness-the examination of which gives one a mental shock much in the same way as one knows a pure-minded man is shocked at the outpour of the blasphemy and the obscenity of talk of some impure-minded and impure-living scoundrel. And of this school of colourists here alluded to it is in no wise uncharitable to say—for they make a boast of it. "glorying in their shame"-that the best of them lay no claim to purity of life, while of the worst of them their lives are best characterised in those terrible words-"" they are given over to a reprobate mind." If any youthful student of ours may not think it true now, the time will, we think, soon arrive when he will find it abundantly evident, that the better the man, the higher his aims, the nobler his purposes, the purer his thoughts and aspirations, the better the artist and the more likely is he to do some of the good work, which, while it gratifies what is called pure artistic taste, does more and higher work in elevating the mind and bracing it up to the execution of good deeds which will live, to the cultivation of high thoughts which will fructify to noble lives. It will be a great day for British art when the decoration of even our humblest homes is deemed a

matter worthy of the care and of at least some portion of the work of our best artists; a still greater day for our national art when its followers, one and all, rise to a true conception of their mission, and of those principles or that spirit which will dictate the execution of its work in such a way that, while it pleases the eye or gratifies the taste, it will also minister to the love, the cultivation and the enjoyment of the pure hopes and the noble purposes of a dignified and dignifying life. We say this, for we confess to being ambitious for the future of our national art: too often it has lent itself to the mere gratification of the gay and thoughtless, to the passing whims and fancies of fashion; while we regret to say that in a few-happily for us but a very few-cases it has descended to the degradation-if not purposely or willingly, certainly with a sad lack of thought as to consequences-of ministering to the lower feelings of our nature. There are, however, signs and symptoms, happily becoming more and more abundant everywhere, that our art is entering upon a higher life, by which nobler work will be done, and in a field so wide that all classes will be embraced within its boundaries---in which the hut of the peasant and the cottage of the artisan will share with the hall and the mansion some at least of its best because its purest work.

Harmonious Treatment of Colour in Industrial Decoration.

Did space permit, much could further be said on the subject of colour as applied to what is generally known as industrial decoration-this including chiefly, if not wholly, those objects connected with our domestic buildings and households, and those met with almost exclusively in their interior arrangements. What has been given, however, includes if not the whole certainly nearly the whole of the leading principles of the art. And art of the highest kind the application of colour is. So great, indeed, is the demand it makes upon the intellectual attainments and the capability to understand the characteristics and to appreciate the beauties of colour, that our highest authorities on art maintain that the utility of an artist, his right to claim a thorough acquaintance with art in its highest developments, is to be judged and decided not by his capability of taking in and understanding, or his manipulative skill in transferring to paper or to canvas the intricacies and the delicacies of form-important as this talent is-but by his understanding what colour really is, and how to apply it to the work he has in hand. That not a few things go to make up this ability in appreciating and dealing with colour is obvious enough. What the chief of those intellectual requisites are, we have in the brief and

bald manner which alone our space admitted of endeavoured to make clear. But of all those which we have pointed out, none exceeds in importance this-namely, an intense love of Nature and a thorough determination to acquire and make our own the lessons which she is ready with lavish hand to give to all who care to accept Without these there is but little hope of any one beof them. coming a true colourist. But one thing is essential-namely, that the artist must take the lessons of Nature just as she presents them to his notice. All or none is the rule. Once the artist begins-as but too many begin-to take one lesson here, on the ground that he deems it good and worthy of learning, and to leave out another there, in the belief that it is not worthy of notice-certainly not of adoption—he is, so to say, lost for all artistic success. Nature admits of no tampering with her laws. If she did allow of it, then they would no longer be laws; for it is the essential element of a law that it is inexorably steadfast, incapable of being meddled with or set aside according as fancy or caprice may dictate. For if I arrogate to myself the right to abrogate or get rid of one law for one reason or another, or, what is more likely, for no reason at all, then upon what ground can I forbid another dealing in his way with some other law-perhaps the very law I deem of the greatest value? Let the artist, then, who enters the school of Nature determine that he shall be an obedient pupil, accepting all and following all she teaches. Of all the lessons which Nature teaches the artist-and they are as numerous and varied as they are beautiful and suggestivethere is not one of greater importance than the exquisite harmony which in all her aspects she presents in colour—a harmony which, however, we shall see as we proceed, exists in the endless diversities of form. As regards contrasts, which to the mind of the uninitiated and inexperienced student present themselves at first sight as contradictory of or antagonistic to harmony, there are in nature many; they abound everywhere. But every contrast is in distinct and beautiful harmony with all which exists around it. There are no contradictions—no antagonisms in the colour effects in nature. This harmony in or of colour arises from what has been designated the "balancing" of colour effects; and this balancing does not exist merely in the disposition of the parts in relation to each other as regards colour, but it is equally observable in the matter of form. Two colours may be placed in close relationship of two totally different kinds. But these opposing colours, as they may be termed from one point of view, in no way, even in the slightest degree, offend the eye with a sense of incongruity. No one in such cases would dream of charging such contrasts in colour with being "out

of keeping," as the phrase is, with the general character of the object. However numerous the shades or tints or tones are, no one can possibly find a good ground for charging the general effect with the condemnation of being "blotchy." And when changes in colour are observable, it will be found that such changes are made, as in cloud and sky effect, with an infinite fineness, nay, truly, tenderness of gradation, which gives one the sense of complete and in every way satisfying and satisfactory sense of repose. And although it is true that the artist never can approach in his canvas the wonderful beauty of natural colours, inasmuch as he does not possess a single colour which can be said to be pure and true,---at the very best his colours can only approach to those which Nature throws abroad with such lavish hands. Still, with a strong love of Nature and of the effects she produces in colour, and with a stern determination to study her lessons honestly and with set purpose to be an artist, at least with true and sincere aims, he may hope to do work which will please the eye and gratify the taste of others. If a true artist, one thing is certain-that, though this last be true, he will not please himself. The truer the artist, the higher his aspiration, the less is he satisfied with his work. It is only the poor in artistic spirit who are rich in self-esteem. Let us not grudge them the gratification of the only thing attainable by them in art.

In an early part of this section we have explained the peculiarities of the "chromatic scale," which as a coloured plate forms the frontispiece to this volume. From that scale and explanation the student will perceive that colours are classed under three great divisions : the "primaries," the "secondaries," and the "tertiaries." The three colours from which all other combinations of colours are formed, and therefore termed the "primary" or foundation or first colours, are red, yellow, and blue. Now, in combinations of colours used in decoration of industrial objects, it is a rule or canon accepted by high authorities that none of such combinations can be considered artistically complete or perfect unless the three primaries are present. - And as regards "form" this threefold bond or band is also noticeable; for in the opinion of authorities it is the accepted canon or law that no composition or combination of form is perfect which does not comprise or embrace the three classes of lines-the "straight or right line," the "curved line," and the "inclined line" (see next section treating on Form, and the illustrations in figs. 11 and 18). And the whole art of decorative design as applied to industrial work may be in the simplest fashion defined thus : namely, that it is, as regards form, combinations of three classes of lines-the straight, the curved, and the inclined; and, as regards

colour, of combination of three colours-red, blue, and yellow-such combinations, or "compositions" as they are technically termed, being harmoniously arranged, and this by the proper subordination of the different classes of lines and colours to one another; the degree of prominence given to each being determined by a proper study of what will be the effect of the whole. And it follows-what is too often forgotten by young students-that it is the amount of honest and determined effort given to this study which will determine whether the decorative composition of lines and colours will be good or otherwise. The following are a few of the combinations of colours that will give contrasts which will be harmonious, and will not offend the cultivated eye. As a rule, green and red and the various tints of these colours are harmonious contrasts. Pale green and violet is another good and harmonious contrast; so also a warmish green and maroon, pea green and chocolate. Other harmonious contrasts are the following :--- Violet and light rose, claret and buff, grey and deep red, bright blue and chocolate, maroon and deep blue, deep blue and pink, deep blue and a golden-tinted brown, a warmish green and black. The combinations of colours, as of lines, may be said to be endless, and the decorator will find it an interesting study to make up for himself tints of various colours, contrasting them with others, thus finding out what will form harmonious contrasts in colour, which will prove useful in the combinations of lines in which he gains variety of form for his decorative work. In every case, however sound may be the lines of study, patient practice and honest endeavour will be required to secure success in decorative work.

General Principles, Canons, or Rules connected with the Application of Form to the Decoration or Ornamentation of Objects of Industrial Art.

The forms or configurations met with in, and applied to, the art of decoration or ornamentation, as it is sometimes termed, are exceedingly numerous. The term "endless" or that of "innumerable" might, perhaps, with greater accuracy be employed here, inasmuch as the forms known as natural, met with chiefly in the vegetable kingdom, are illimitable, as may be said also of those of what may be called the natural world, from which the endless varieties of what are termed landscape are obtained. To the subjects obtained from these two sources we have to add those which proceed or are evolved from the inventive faculty of man. These are combinations of lines straight or curved, and although in many cases they are based upon or suggested by natural forms, chiefly foliage and flowers, they are for the most part wholly due to what may be called the fancy or liking of the designer for combining lines in such a way as to impart pleasure greater or less to those who examine them. And as there is practically no limit to the interchanging position of straight lines and of curved, any more than there are practically any bounds which can be set to the combinations of the notes of music in producing musical effects, or of the letters of the alphabet in forming written or spoken sentences; the result is that the examples of purely ornamental subjects are practically endless or innumerable. Hence it comes about that the number of subjects applicable to one or other of the many forms of industrial decorative work is simply inexhaustible. And these are being or can be daily noticed also, inasmuch as the materials upon which designs can be based are lying ready to the hand of the designer or decorative artist on every side of him. But numerous as are the subjects fitted for decorative work, they all come within the range of one or other of three classes only.

These are as follows: first, "natural objects"; second, "natural objects conventionalised"; and third, "purely ornamental subjects," or fanciful combinations more or less complicated of straight and curved lines. In some cases there is in the works of designers a combination of the three classes, with what artistic result the youthful student will see when we come to discuss the canons or laws which dictate pure and true design as applied to the decoration or ornamentation of industrial work in one or other of its numerous branches.

There is, however, another classification in which the three divisions of artistic design range themselves. This classification has two great sections, under one or other of which the various classes naturally fall. These two sections are dependent upon the purposes for which the objects are desired to be decorated. Take, for example, the departments of industrial work which are concerned in or connected with the adornment of our domestic houses. The young student will be able to perceive, without much previous acquaintance with the subject, that the objects or subjects to be decorated fall under one or other of two classes : first, those which are connected with surfaces, as those of walls; and second, those which are connected with solid bodies, such as articles of furniture, which are partly useful, partly decorative or ornamental, and such as vases and the like, which are purely ornamental. Designated with these technical terms, artists talk and write of decoration and ornamentation on the "flat" and that on the "round." The first of these sections-the "flat"-is exemplified by designs for wall papers or wall or mural decoration, of which we give an example in fig. 1, Plate XXIV. The second of these sections-the "round"we illustrate in the vases in Plates XXXIV. and XXXV. in

Plates XXV. and XXXVI., in figs. 1, 2, 3 and 4, Plate XXIV., and in Plate XXVI. Figs. 1 and 4, Plate XXIX., are examples of a combination of the "flat and the round" in decorative design in different departments of industrial work. But while the distinctive characteristic of "flatness" would at first sight appear to confine subjects of this class to their design upon surfaces, it is obvious that this does not absolutely preclude the drawing of subjects upon flat spaces, so that they will have the appearance of being solid. This is illustrated in Plates XXVI. and XXVIII. Thus, when the subjects in the last-named Plate are drawn in pure outline, in no way giving or professing to give the appearance of solidity, it is obvious that they could be so represented by the draughtsman as to give the idea of the subjects being cut out of or being carved from solid blocks; this being, of course, effected by simply shading them, and in some cases adding the effect of shadows. This is illustrated in the subjects in Plate XXVI. These conversely treated could be made to give the appearance of flatness without any relief or look of solidity, as in the subjects in Plate XXVIII. In like manner, taking purely natural subjects-as, say, flowers or foliage-these could be drawn so as to give the forms of the petals or the leaves in pure outline treated on the flat. Otherwise the draughtsman could give them the appearance of solidity, as if carved out of solid wood, by simply adding the effects of shading and shadow. All this brings up the question of imitation of solid objects drawn or depicted upon flat surfaces, concerning which we shall have somewhat to say in a future paragraph; it being a subject upon which there are widely differing views held by decorative artists.

Leaving for consideration in its own special section the points connected with the designing and application of the third class of decorative designs—namely, the fanciful or imaginative combinations of straight and curved lines to which the name of ornamental drawing or design is generally given—we have now to consider the application of natural forms, or the adaptation of such forms, more or less changed in their original characteristics, to the decoration of objects of industrial art. These form the two first classes we have named. What has to be said of them falls to be given under the head of

The Adaptation of Natural Forms, and of those Forms Conventionalised or Altered in their Original and Specific Characteristics to the Practical Work of Industrial Decoration.

In considering the points connected with those two great classes of decorative design, we have to take up what has been advanced by the advocates of each, being, as they think, the best adapted to the requirements of the decorative design. And here, at the cutset, we have to name this fact as one which naturally increases the difficulties of the young student entering upon the practical work of designing as applied to industrial work-namely, the exceeding diversity of opinion which he finds existing amongst those who are considered authorities, or who claim to be such, on the subject. Not only are those differences of opinion very marked, but in some instances they are accentuated by what even the most inexperienced of youthful students cannot fail at once to see are, if not positive absurdities, certainly marked inconsistencies, in argument and illustration. Finding himself, as he takes up one authority after the other, confronted with diversities and contrarieties of opinion as numerous as they are decided, the young student is in the position of one who, looking for some fixed principle or law which will guide him in all the intricacies of his practice, finds only that one is face to face with a set of opinions which, from their very diversity and apparent impossibility to be reconciled one with the other, cannot, even with the most liberal construction, be elevated into the position of definite counsel useful in his practice. Nothing would tend more to the advancement of the art generally than the enunciation of certain canons or laws or principles which would by the great majority-if not by the consent of all-be accepted as those which define and decide practice in all the departments of industrial decoration. "Artists have to fulfil," says the greatest living authority on art, "the duty of imparting a true taste in design, not only to the producer (that is, the maker or manufacturer of decorated industrial objects), but to the consumer (or purchaser of them); but this duty could never be properly performed until all are agreed upon some principle which should form a basis" of all counsel or advice to artists which would take the place or fulfil the office of laws or Whether this general consensus of opinion or belief will canons. ever be arrived at, time alone can show. Meanwhile, all that the student has to do is, first to give time to a careful study of the works of the best decorative artists, for examination of which our various educational and technical institutes afford facilities now such as never were within the reach of art students, even of a period so near to us as some generation or so ago. Second, by carefully reading and collating the recorded opinions of the authors of the best works on art; for he would never undertake the gigantic task of even giving a glance only at all those published or printed, and from this study and comparison of different authorities endeavour to establish what for himself at least will be fairly satisfactory as a

statement of principles or a code of laws which will guide him in the practical departments of his work. Meanwhile, it is our duty here to endeavour to place before the young student the leading considerations, a careful study of which may help him somewhat in formulating a set of principles which will be of some practical service in doing his work in decorative design. In doing this let us take up first the recorded opinions of the best of the school which advocates the adaptation of natural forms to decorative purposes, just as they are presented to us by Nature herself in and with all their character-Broadly represented, the young student may take istic features. Plate XXX.—which contains drawings faithfully executed of foliage as taken from the actual subjects as growing.—as representative of the natural school; and Plates XXXI., XXXII., and XXXIII.--which contain foliage changed from the rational or natural condition into forms which still give the idea of foliage—as examples of the conventional school. If what we have said as to the beneficial influences which the lessons taught by nature have upon the mind of man he correct, it is at first sight difficult to comprehend how it should be wrong-in the decoration of any object or body used by man in his daily domestic duties and life, or applied to the adornment of his house, so that it may please his eye and gratify what is called his taste—to copy the natural forms, as those, for example, met with in flowers and foliage, and when copied to apply them to the objects here named. If they are pleasant for the eyes to look upon when seen abroad (and pleasing they always are, no less in the humble weed which shoots through the herbage of a fence than in the flower of the cultivated garden), how comes it that they are not pleasant when applied to the objects of utility or of adornment in the house? And yet we are, by one who ably represents the conventional school (himself was in life an eminently accomplished decorative artist) told this: that as "civilisation progressed conventional representations were always used, and as art declined a nearer approach to nature was attempted"; this attempt being made, as he stated, "always with very bad results." But when we turn to an exponent of the views held by those who belong to the naturalistic school of decorative design, and find himno less able an authority on art, probably, than the first-in equally clear and explicit terms give expression to his views as below, we may with all safety conclude that there is much to be said on both sides of this great question. The following are the words of this high authority: "All the true nobleness of art had come from people loving nature, in some way or other expressing their sentiments about nature; and exactly in proportion as the reference to nature became more direct, the art became noble." And in another place, and while treating on another branch of art, the same authority gives the following testimony as to the moralising influences of a love of nature as applied to art. Referring to the Gothic style of architecture, which is pre-eminently characterised by its references to natural objects, this authority thus puts it: "In that careful distinction of species and richness of delicate and undisturbed organisation which characterises the Gothic design, there is the history of moral and thoughtful life influenced by habitual tenderness and devoted to subtle inquiry, and every discriminating and delicate touch of the chisel, as it rounds the petal or guides the branch, is a prophecy of the development of the entire body, the natural sciences beginning with that of medicine, of the recovery of that of literature, and the establishment of the most necessary principle of domestic wisdom and national peace." Surely any development of a love of natural objects, which could have the effects here noticed, must carry with it moral influences of a kind as powerful as beneficial. And anything which tends in this direction cannot have a debasing or degrading influence on art, whether it be the extended popular branch or the more confined one of decorative art. If the cultivation of a love for natural beauties of form and of colour has the effect of elevating the moral faculties as well as the intellectual, it is difficult to see how-when leaving the general field of study as prescribed us in the scenes and sights of nature around us everywhere, and confining ourselves to the infinitely more limited field of decorative or ornamental work-an effect of a different and of a degrading kind should be created. It is hard to believe this; just as hard as to believe that a love for nature has per se a lowering effect on the moral and intellectual faculties.

It appears to us, on a close examination of the position taken up by the advocates of the conventional as opposed to the naturalistic school of decorative artists, that they do themselves no small amount of injustice when they say, as some at least do assert, that decorative art declined very much in proportion as the study of nature, and of the application of its lessons to the practical work of decoration increased. One, indeed, has a difficulty to see how they can assert this, fully believing its truth, and convinced that experience would corroborate it. Mistaken views frequently have their origin in lack of precision of statement or of definite propositions; and we suspect that if inquiry be pushed, it will be found that such a sweeping charge as the above against the influence of the natural school had reference to and was backed up only by some extremely bizarre and thoughtless application of natural forms to decorative purposes; applications which even the most confirmed disciples of the naturalistic school would condemn, certainly not highly approve of.

Turning from the enlarged or general statements of the position taken by the exponents and the advocates of natural and conventional treatment of decorative work to their special applications, we may find some evidence in support of this view. Take, for example, the different views held by the two schools as to floor decorationsay in carpet work. The naturalistic school see no objection from an artistic point of view to the introduction of, say, floral forms, flowers, and foliage in carpet or floorcloth decoration. And in support of this view they point to the great fact that Nature herself may be said to be the manufacturer of carpets on the largest scale in her green fields; and that when in the early spring we meet with the "smiling meadows besprent with buttercups and with daisies," we are conscious of no incongruity whatever when we walk over their surface. If any feeling is expressed it is one of delight, all the purer the more we are lovers of nature. Certainly we never dream of anything being out of keeping when we walk over and for the moment crush down the petals of the flowers or brush aside the spear-like blades of grass, which rise only the brighter when our tread has passed away from them. Ruskin, who, as might be expected, is the great advocate of natural effects, reminds us in this connection that, so far from our considering that anything is wrong in any way when we walk over flowers, on the contrary, when we wish to pay the highest honour to some, as to blushing brides, we purposely strew the pathway along which they go with flowers.

But, on the other hand, the conventional school of decorative artists object strongly to natural objects, such as flowers and foliage, being chosen as the subjects of decoration for floor surfaces or spaces, as their use "has a most degrading influence on the taste of the present day." How it degrades at all it is difficult to see, so long as the subjects call to mind associations connected with all the purity and the beauty of what nature displays in such a lavish way everywhere around us. But when there are members of the natural school who, in addition to the choice of subjects for decoration of carpet work such as flowers and foliage, proceed to adopt delineations of fruit, then the wiser members of the school would be ready enough to join with the members of the conventional school in objection to this last kind of decoration or ornament; and this on the ground of clear incongruity and lack of fitness. We have seen that there is no valid objection to the walking over surfaces in which flowers or

foliage are chosen as the subjects of decorative effect; but it is a very different thing when we are asked to walk over and crush fruits. If we met with fruit lying scattered here and there over the surface of a meadow we should feel compelled to pick it up, certainly not to walk upon it and waste it wantonly by crushing it. Such a surface is not one for fruit to be displayed upon; and the rule as to fitness of things in decorative effect precludes for the same reason all imitations of it being adapted to the decoration of carpets or of floor spaces. And while we should have no objection to see flowers on a carpet, we should object as earnestly as conventionalists to the basket in which they were held being represented on a carpet surface. The same rule as to congruity or fitness would preclude all delineations of animals on carpet surfaces-such as a wolf or a tiger or leopard upon a hearthrug. This rule as to fitness or congruity is one which is as rigidly upheld by the natural school-at least by its most cultivated members-as by those of the conventional school.

In this, as in other questions, the safe course to take, when one meets with extreme views, is the middle one. On each side much may be said in its favour; one cannot be altogether, wrong. It may indeed be taken as a safe general principle to follow, that each particular case of industrial decoration should be treated on its own merits; for what will suit one particular material, to be employed in a certain way, may very probably not suit another material used in a different way. The very use, indeed, to which the material is to be put will or should influence the design. Thus, for example, the same textile fabric, if used for two essentially different purposes, will demand a different treatment for a different use: if employed as a dress material the ornamentation will be different than if used for upholstering purposes, as, say, for covering a piece of furniture. For in the dress material the ornament should lend itself with ease to the principle of folding, which is one of the peculiarities of dress materials; while in the case of the furniture covering, as flat surfaces are exposed to a considerable extent, the ornament should obviously lend itself to this peculiarity. The same principle will be applicable to the ornamentation of fabrics suited for the hangings or curtains of a room. Again, in two cases where flat surfaces are to be decorated, while for a wall surface imitation of rounded forms might be admissible, and would not be incongruous there, for a flat surface such as a floor there would obviously be an incongruity or unfitness, inasmuch as the association of ideas would be antagonistic to those naturally connected with the subject, as one would not feel comfortable, so to express it, in walking over

solid rounded objects. Here, again, we come round to the same leading principle of the fitness or congruity of the design to the material to be decorated.

Finally, this important principle should always be borne in mind, -that whatever be the class or style of decoration adopted, however appropriate it may be to the peculiar circumstances of the case, however fit in its details to the material,-the design, however beautiful by itself as a design merely, should always give the distinct impression of repose. Ornamentation should always be subordinated to this feeling; it should be suppressed rather than loud, to use an expression much in vogue at the present time. Designs should attract attention rather by their general quietness than by their obtrusiveness. If our young students will not misunderstand us, we should say that their designs should take their place in the minds of their spectators more with the feeling that they are not attractive than with that of being too easily noticed. As a rule, ugly and decidedly objectionable designs attract attention at once. They force themselves upon the spectator with a species of shock, so to say; demand attention only to be condemned, and with the wish, latent if not expressed, that they could be taken away. Whereas in the case of a thoroughly sound and good design it will require time to be appreciated; it will grow upon one, and if scarcely noticed at first, each time it is looked upon it will be the more highly thought of; it will grow, so to say, in the good esteem of those who look upon it. Vulgarity is generally—we may say always ---obtrusive; merit is modest, and its value takes time to be appreciated. Quiet, well-balanced, reposeful designs are always or generally in what is called good taste. Garish designs—too pronounced, to borrow a French term-are the reverse of this.

We could go on citing cases one after the other, each of which would have its own particular lessons of practical utility; but the limits of space at our disposal having now been reached, we must draw our remarks to a close. But enough has been said to at least point out to the young student the direction which he should take in studying the subject. If what we have given is sufficient to act as an incentive to further and fuller development of principles—if our remarks should induce him to think for himself—we shall have written to some practically useful purpose.

General Principles influencing the Adaptation of Form to Industrial Decoration.

We have in the introductory paragraphs of the present division of our work given some remarks on the principles which dictate the

application of design in pure outline to decoration of flat surfaces. These remarks were of the briefest, and took up merely one or two of the leading principles of this department of decorative design. But there are several other points which remain to be noticed, and which will require to be well considered by the young student, as they affect in the closest manner his practice in industrial decoration. Many young students, at the commencement of their practice in and study of the art of decorative design, have a difficulty, when examining the elaborate works of great authorities on the subject in which there appear to be what looks like an endless variety of lines and forms, to realise that, complicated as they are, they are nevertheless made up of elementary lines, of which there are only two varieties. These are the "straight," or, as it is termed by geometricians, the "right" line, as the line a a, fig. 6; and the "curved" or "curvilinear" line a ain fig. 7. The different designs which are met with in such profusion everywhere around us are made up of these two lines only.



In some cases straight or right lines, as αa , fig. 6, alone are required to produce certain forms, as at α , b, and c, fig. 10, or $\alpha b c d$, fig. 11, combinations of which form very effective designs, or "patterns" as the technical term puts it.

Variety in designs in which straight or right lines are alone used is obtained by changing the positions of the lines, as from the horizontal position a a' or b b', fig. 6, to the vertical cc' or dd'; a third change being the inclined, oblique, sloping or angular, as ec' or ff', the incline in ec' being from the left hand e to the right e', or conversely, as at ff', from the right hand f to the left at f'. These two varieties of inclined or oblique lines are obviously changes more or less pronounced from the vertical lines, as cc' or dd', by tilting back the upper ends c and d in the directions e and f. In the other class of inclined lines or oblique, as gg', hh', the change is obviously from the horizontal lines, as aa', bb', the inclined line gg' being obtained by raising the end a' of the line aa'; or conversely, by raising the end b of the line bb'. How varied, and in many cases effective, may be the combinations of simple straight lines only, in the way of creating patterns or designs, the student will find exemplified in several of the illustrations given in our present volume. Some of the elementary forms of right-lined patterns are shown in figs. 10 and 11, and designs of a more complicated kind in the earlier lessons in the section of this volume entitled "The Ornamental Draughtsman," and also in the frets in figs. 3, 4, and 5, in Plate XXXVIII.

Coming now to the second of the two classes of lines—namely, the "curved." These may be formed of parts or arcs of circles, of which the elementary form is at b in fig. 7, the lines being disposed either horizontally as at aa or cc, vertically at dd, or inclined as at ff or gg; the changes of position giving changes in the way in which they give the appearance of what is a concavity, as at aa, or



Fig. 7.

a convexity, as at cc, and this in relation to the line of the horizon. In the vertical curved lines dd, ee, and the inclined ii, kk, the convexity, so to call it, is towards the left in dd and ff, and toward the right in e e and g g. Curved lines which are parts of circles or arcs described from a given point-the "centre"-never give such pleasing curves as those which are derived from the "ellipse," the elementary form of which is shown at i, in fig. 7; jj, k k, being elliptical curved lines. The Greeks always employed curved lines derived from the ellipse, or from some of the other eccentric curves. such as the parabola; and to this circumstance Grecian ornament to owes all its value, as being so much more pleasing to the eye or cultivated taste than Roman ornament, in which the circle was the base of the curved lines. The difference between the two is very observable in the architectural mouldings, the outlines of those which are Grecian being so much more satisfactory to the eye than the Roman mouldings of the same class.

In fig. 7 the curved lines, as a a, b b, all flow, so to express it, in the same direction as indicated by the arrows. Technically such curved lines, or, to use the more simple and generally employed term, curves, are known as "curves of single flexure"—that is, having, to use the popular expression, the "bend" in one direction only. But in having two bends in one single curve we contribute a new element in linear design, one which is characterised by such a pleasing look that one variety of it has given to it the name of "the line of beauty," so named by Hogarth, the celebrated painter of the last century. The curved line with two bends is technically called the "line of double curvature," or the "line of contrary flexure" (or bending). A line of this kind is illustrated in different positions in fig. 8; the double bend, or the contrary curves, being indicated by the arrows as shown.



Fig. 8,

We now come to the combination of the two classes of lines to which every pattern or design, however complicated, is reducible, as a careful analysis will show. In fig. 9 we give an illustration showing how the single straight line, as a a' in fig. 6, may be grouped simply as in parallel horizontal lines, as diagram A, or in parallel vertical lines in diagram B, or oblique in diagrams C and D; all the lines being parallel to each other and equidistant from each other. Bv combining the horizontal A with the vertical B, as at c, the distance between the two classes of lines being equal, we obtain a series of squares. By altering the distances between the lines relatively to each other, so that the set ff are at a greater distance from each other than the other set gg, we obtain a set of rectangles or rude parallelograms. And by having the leading straight lines oblique or inclined (see ee', ff', fig. 6), as at aa, fig. 10, and placing them at equal distances from each other, we obtain a series of diagonal squares or "diamond"-shaped squares, as at a a. By altering the relative positions of the lines and their distances, rhomboidal figures are formed, as in fig. 11. These, in the technical terms of decorative design, are designated as "lozenge" Vorms. When such forms or any pattern or design are arranged so as to form a square, such as at a b c d in fig. 11, and these distributed over a given surface, so as to form what are technically termed "repeats," of which we give an example in fig. 11, at efgh; although of necessity straitened or confined, as compared with designs in which curved lines are employed, the combinations of straight lines give a much larger variety of "patterns" than the youthful student may at first sight be disposed to conceive of. Thus, by way of practice, let him take the figures in figs. 10 and 11—the diagonal square b, fig. 10; the rhomboidal, as at a, fig. 11; the triangle,



as at c, and the hexagon at d, in fig. 10—and try to arrange them in a variety of combinations; and he will, we venture to say, be somewhat surprised at the result. In using straight-lined patterns for the decoration of surfaces—as, for example, of floorcloth or of tesselated pavements, for which objects they are, perhaps, the most frequently used—the youthful designer must bear carefully in mind the absolute necessity of so balancing the subjects that that sense of repose, which elsewhere we have shown the artistic importance of, will be secured. This will require careful study, and will frequently demand the subordination of one part of the design to some other part. This may have to be done at some sacrifice, inasmuch as the part so subordinated, so lessened in importance, may perhaps be that on which the youthful designer has set his mind, as forming one of the chief features of his design. In this, as in all other

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departments of his work, he must remember the paramount claims of truthfulness, of honesty of purpose. These may to some appear as strange words to be applied to what they may claim to be but a small matter-a simple design. Nevertheless, unless care be paid to this, we fear that the final result will be anything but satisfactory.

Coming now to the combination of the second class of linesnamely, the curved-we find the same general principles dictating



Fig. 10.

the production of patterns or designs. And in these it is essential to the young student to note that the same principle of "balancing" or disposing of the parts of the composition must be borne in mind, so that the sense of "repose" be gratified. If the eye cannot rest upon the design as a whole, and if there be a sense of incongruity between any given part and another, a feeling as if there was a "something wanting," which is much more readily understood and taken in by the mind than it can be described, the student may rest assured that there is a decided fault in the disposition of the various

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parts which go to make up the composition as a whole. And good forms lend themselves, so to say, to this proper and satisfactory "balancing" of the parts of the design more readily than base or defective forms. Of curved lines, those known as curves of double flexure, which, as in fig. 7, we have shown to be known as the "line of beauty," lend themselves much more readily to graceful adaptations of curved lines than those called simple curves. What we have said



as to the value of good disposition of parts may be illustrated in simple fashion by the diagram in fig. 13. Thus, while there can be no positive objection to the disposition of the two lines of double curvature a'a', b'b', placed under each other in horizontal arrangement, or vertically, as at cc, dd, when the same lines are disposed as at eeand ff, or as at gg and hh, the eye perceives at once that the last named is more pleasing than the first disposition. And as regards the "balancing" of curved lines, its importance from a
decorative point of view may be illustrated in the same simple fashion. Thus, in fig. 13, the lines a and b, placed on each side of the central dotted line e d, give to the eye a same of satisfactory repose. This "balancing" of the parts of a design was well known to the Greek artists of old, and all their finest compositions show how their minds were impressed with a high sense of its great value. It is admirably illustrated in the well-known "honeysuckle" ornament, the elements of which are shown at a b in fig. 12. The form in b b, fig. 12, is seen at once to be a balanced one. Several examples of finely balanced designs are shown in the



Fig. 12.

accompanying Plates—as, for instance, fig. 4, Plate XXIX., figs. 1 and 2, Plate XXVIII., and the examples in Plate XXIV.—in which the lines are chiefly curved. Examples in which the lines are chiefly straight or right lined are shown in figs. 3, 4, and 5, Plate XXVIII. In fig. 15 (text) we give another lesson illustrative of this principle of balancing the parts of a design. In this the elements are two simple curves, b, b, placed opposite each other with a round dot between them, the curves having their concave sides opposite. This form distributed over a surface has formed a pattern for a textile fabric, the figures being placed in lines, as shown. Now, by taking the same form of simple curves, and placing one or two at the sides, as before at cc, then disposing one of the curves, as d, above the vertical dot e, and another, as f, below it, the student will at once see that we have a well-balanced form. This may be distributed in parallel lines over the general surface, as in the diagram at aa. But by adopting the diagonal or "diaper" form of arranging the design, explained in connection with a and b, fig. 10, and ab, cd, fig. 11, we have a much more pleasing arrangement than the parallel-lined one, as at aa or e and g in fig. 15. This is shown at hi, jk, which are "repeats" of the diagram ccd ef placed diagonally.

What are called, in the technical language of form and colour



Fig. 13.

applied to industrial decoration, "dispersed" designs, are some forms scattered, so to say, over the general surface to be decorated, as a textile fabric, without any attempt at regular or systematic arrangement. The forms may be purely conventional—having, indeed, nothing definite about them, such as at a b c d, fig. 17, or a a in fig. 14—or they may be sprigs of conventionalised foliage or flowers, such as at a a, b b, fig. 16; or the well-known "shell pattern" at cc, so much used in Indian-made shawls, or the design for such dispersed patterns may besafely a series of dots or small circles, as at b b and d d in fig. 14; or a simple geometrical form—the "quatrefoil"—as at g, fig. 15. If the colours be well chosen, so as to harmonise with each other and with the general ground of the fabric, some of these "dispersed" patterns look remarkably well. The simple pattern, if such it can be called—the dots or small circles as at ff, fig. 14—had quite a run one season for calico dress-pieces. As a rule, however, better effects are obtained by using such simple subjects as above indicated, distributed over the general surface on some regular plan, such as the diagonal or diapered style, as at ff, in fig. 14, or ijk in fig. 15.

One great advantage possessed by the diaper or diagonal method of arranging the pattern or figure over the general surface is that it lends itself in some departments of industrial decoration to the gaining of effects which are not obtainable by any other arrangement. Take the decoration of "wall paper" surfaces, for example. In rooms it is generally considered that *height* from floor to ceiling has a decided effect in either adding to or taking from the



pleasing effect produced by a well-proportioned, and, as it is called, a "handsome room." A high ceiling is always preferred to a low one. Now, the youthful student, who has not perhaps given much thought to the subject, may be surprised to learn that the mere way in which the pattern of a wall paper is distributed over the surface exercises an important influence upon the appearance of height which the walls possess. Thus, if we take the lines of a design to run along horizontally, as at $\alpha \alpha$, fig. 18, the eye is naturally carried along right or left, as at arrows b, c, as the case may be, till the end walls are reached. Here the association of a high ceiling is in no marked way given by such lines of design on the wall paper. Take now the case of the lines of the design of the wall paper which run vertically, as at ee, same figure. With those the tendency of the eye is to follow the lines upward in the direction of the arrow f. bringing the ceiling line down, so to say, or leading the eye towards it much more quickly than would otherwise be the case. Such vertical

lines, as ee, tend, therefore, to make the ceiling appear lower than it actually is; and that the power of the eye is great in creating, so to say, illusions, or in making certain points to appear different from what they are, is generally admitted. The designer should, therefore, take advantage of this optical peculiarity to create effects favourable to the purpose he has in view. In the case under consideration the object is to increase—or rather to give the effect as if it were increased—the height of the ceiling line above that of the floor.

Now, if the "pattern," or parts constituting the design, be arranged so as to run not in a horizontal direction, as at aa, fig. 18, or vertical, as at ee, but in a direction midway between these two, as the line g, this diagonal or oblique direction will have the tendency to increase the distance of the ceiling from the floor line, inasmuch as the eye will take, as it were, a longer time to reach the upper end than in



the case of the vertical lines at *e e*. Now, this diagonal arrangement or distribution of the pattern over the general surface is obtained very easily by adopting the diapering system of arrangement. This is clearly illustrated in fig. 11, *ante*. For if the diagram or "repeat" of the element of the pattern, which is simply the form known technically as the "lozenge," sometimes the "diamond," be as at a b c d, and this be repeated all over the surface, a little study will enable the student to perceive that the pattern is compelled, so to say, to form the three classes of true arrangement—the "horizontal," as at a, fig. 18; the "vertical," as at *ee*; and the "diagonal," oblique or "inclined" at *g*. Thus, in fig. 11, *ante*, the diamonds or lozenges, as a b d, will be repeated all over the surface to be decorated, but throughout in "horizontal" lines, as in ll; the lozenges c c in "vertical" are as at *j k*, and the "lozenges" b a, c d in diagonal or "inclined" lines, as at *m m*. Now, this system of arranging the pattern over the surface to be decorated can be adapted to any design, whether purely conventional, as at aa, fig. 14; geometrical, as at ee in same figure; or with natural objects conventionalised, as at aa or bb, in fig. 16. Every form can be so disposed. And it is for the designer fortunate that it should be so; for the highest authority on decorative design expresses it as his belief that no design, as a finished whole, can be perfect unless the three dispositions of line be met with in it—namely, the horizontal, the vertical, and the inclined or diagonal.

One great advantage possessed by the curvilinear patterns is that the lines which go to make up the complete design can be so arranged



Fig. 16.

relatively to each other that they will "flow," so to say, into each other so naturally that the eye will not be offended with any break or interruption. Now, while the diagonal line combination described in preceding paragraph, and there recommended as that which in its three classes of leading lines—horizontal, vertical, and inclined give the best design, yet this might be considered as antagonistic to the rule we are at present considering, namely, that the parts shall flow into each other without interruption. But a little examination will show that this is not so; but that any pattern, however intricate its lines, can be distributed over the surface to be decorated in a series of "repeats," and yet so arranged that they will give the three classes of disposition in line illustrated in figs. 11 and 18 with perfect harmony of adjustment. In fig. 12 one or two examples in

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detail are given, to show the difference between lines which meet other lines flowing into each other, and those which abruptly join.

We have now endeavoured to give, as fully as the limited space at our disposal allows, accounts of the leading points to be attended to by the pupil in preparing designs for decorating objects, and materials used in one or other of the numerous branches of industrial work. These apply generally to all classes of design, being what may be called fundamental principles, none of which can be overlooked or neglected without injury to the artistic merit of the design. The other part of the general subject which falls to be noticed is that connected with the application of decoration to special subjects or materials, such as the decoration of wall papers, carpets, floorcloths, curtains, hangings or tapestry work; textile fabrics for dresses, ribbons;



Fig. 17.

furniture and domestic articles, such as vases and other ornamental work; or those for useful purposes, such as dinner and tea services, jugs and drinking vessels, and a long range or list of subjects and objects too numerous to be even named here.

It is when we attempt to formulate a set of rules or laws, or let us say some simple principles which would be accepted generally as guidance to students and practical designers, that we come across such a wide variety of opinions and of dogmatic statements, that the task of formulating a set of definite principles seems an utterly hopeless one. To this we have already pointedly referred while reviewing the claims of the two great schools of design—the natural and the conventional. We can at best here endeavour to get hold of some few leading principles to which the majority would consent, as being usefully applicable to decorative work generally; although from what has already been stated there seems but little chance at present, at least, of a set of laws or of principles being so formulated as to receive the united consent of a fair majority of those engaged in the practical work of decorative design. It is many years since it was proposed to get a conference of all the leading authorities on art, and at this to collect from those taking part in it their different and differing views on the leading points of decorative work, and from these to deduce, if possible, some general principles upon which all were agreed. But this conference, although proposed by those high in art, was never called; and things remain now as they were then. So that practically it comes to this, that each decorative artist is simply a "law unto himself."

The first point essential to the self-education of the artist in his work of applying decorative or ornamental form to the materials used in industrial work, is that he be honest in all the work which he sets his hand to. It is not that he be honest in so far as doing his work conscientiously—doing it as well as he can—although this



is, of course, insisted upon by those who are entitled to give counsel in the matter; but honesty of purpose and intent must be displayed in another direction. And the first point under this head is that the style of decoration adopted should have an obvious reference to and a clear connection with the material to be decorated. Any style of decoration, for example, which applied to glass gave the impression or raised in the mind some idea associated with metal—as iron, to wit—would be essentially a false, because dishonest style, inasmuch as it would profess to be what it is not. From this may arise the canon or law that each material used in industrial work has, or demands, its own peculiar style of decoration. This is a sound and therefore a safe principle for the young student to be guided by in his decorative work. If it does nothing else it will compel him, so to say, to think; and anything which brings this about, in the life of a student, is of great value to him.

This principle brings in its train another rule—namely, that, in all decoration of industrial material, utility shall be duly considered.

Some authorities, indeed, place this as the first law to be obeyed. Its value appears to be so obvious that one would scarcely suppose that it could be neglected, or, what is worse, wholly ignored, as possessing no practical value whatever. Yet that this is so is but too true, and can be seen in a thousand-and-one articles of what are called art manufacture or art design : e.g., drinking vessels which by some feat of dexterous manipulation can be drunk out of or be filled and emptied, but which are so shaped or formed that by no possibility can their interiors be properly cleaned out. Scores of examples could be cited in proof of the utter forgetfulness by art designers (so called) of this essentially sound law or principle. Articles of furniture so decorated that they act as snares and pitfalls for the unwary-mere collectors and harbourers of dust, which, from the very nature of the ornamental or decorative parts, stuck on "anyhow," cannot easily, if at all, be cleaned. In connection with this law or principle it may be accepted, as a rule or dictum which cannot be set aside, that all decoration which ignores or impairs or lessens the practical utility of the object ornamented is essentially wrong and thoroughly false. In view, indeed, of the evils which arise from neglect of this law, we need not be at all surprised at some authorities placing this as the first canon or law to be attended to. As a corollary to or natural deduction from this law come all considerations connected with the proper use of materials to be decorated. A style of decoration, for example, fitted for a textile fabric, may be wholly unfitted for the decoration of a floorcloth or a tesselated pavement. Or what would be apposite decoration or form for an object made of cast iron would obviously he quite unfitted for one made of glass.

This fitness of decoration to the material to be decorated is of the highest importance. A very eminent authority on this point has the following, which should have the closest attention of the student: "The question is not simply whether certain specimens of ornament are in themselves beautiful, but whether, being so, they are adapted to particular purposes. I do not mean whether they can be executed by some particular process of manufacture; but whether, supposing they could be executed, they are as ornaments suited to particular uses, situations (i.e. positions), or fabrics." The same authority goes on to say, what in effect we have already insisted upon as of the highest importance-namely, that the student should in each particular case think out for himself all the conditions bearing upon it, and this wholly independent of the opinions of others, no matter how high they place themselves, or are placed by others, as authorities on art decoration; and so, thinking it out thus independently, as to what kind of ornament will best suit the material to be decorated, bringing out its structural peculiarities, its characteristics as a material, which distinguish it and set it aside from all other materials—then the result, in the opinion of our authority, will be that the student or decorator will "never fall into any great mistake." This is in effect but a general paraphrase of the specific point we have already insisted upon—namely, that honesty of purpose in this work will be the best safeguard of the decorator against his perpetration of any great or grave mistake or absurdity in the decoration of the materials used in industrial work.

It would be easy to cite examples of the important principle of fitness of decoration to the material to be decorated, above dwelt upon. But one or two cases will sufficiently explain to the student who is but beginning his practice what is meant. For example, a decoration of a figure-subject of a more or less elaborate character in detail, representing, say, some well-known historical or domestic incident, however completely it might pass the judgment of those competent to give an opinion as to its merits, would obviously be very much out of place in the decoration of a floor. The irregularity would be evident at once, as walls and vertical surfaces are invariably associated with, and indeed the only places truly fitted for, the reception and the display of purely pictorial subjects. And the incongruity of adaptation would be none the less obvious if the subject were a landscape; and still more evident if the painting portrayed some painful domestic incident. Again, an ornament or style of decoration which would lend itself naturally and without effort to the association of ideas connected with the falling folds of drapery or of a lady's dress, would obviously be out of characteristic keeping with the decoration of a wall, with the surface of which is associated naturally perfect and continuous flatness and stability. Further, a style of decoration which would lend itself gracefully and naturally to the ornamentation of objects with which the ideas of fragility and weakness are associated, would obviously be most incongruous if applied to the ornamentation of objects with which strength to resist pressures, or to sustain or support heavy weights, would be alone or chiefly associated in the mind.

It will be seen from what has been said that this question of fitness of decoration to the material to be decorated allies itself very closely with the principle of the utility of the object being served and maintained by the style of decoration adopted—a principle to which we have already drawn attention. Cases in illustration of what has been advanced in the paragraphs of this section could be multiplied to almost any number. But this extension is not needed: enough has been said, with what has been given in the section which

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takes up the claims of the two schools of art-the naturalistic and the conventional-to enable the young student to have a fairly accurate conception of what are the leading principles of the application of form and colour to industrial decoration, and to give him some help in formulating for himself a set of canons or rules by which he will be guided in his work, and saved from the perpetration of some of those monstrosities in art decoration which have been produced from time to time, and of which it may be said that one fails to decide which is to be most blamed and pitied—the artist, so called, who could design, or the public who could purchase such gross departures from sound principle and correct because healthy taste. Other points of practice-such, for example, as to how far direct imitation of natural or artificial objects is permissible in the decorative treatment of industrial work-will be found more or less fully explained in the section which discusses the relative claims of the naturalistic and conventional schools of decoration.

THE END.











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[Plate V.











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[Plate XIX.



ORNAMENTAL DRAUGHTSMAN.














DECORATION COLOUR IN INDUSTRIAL AND FORM



FORM AND COLOUR IN INDUSTRIAL DECORATION.









[Plate XXXII.

FORM AND COLOUR IN INDUSTRIAL DECORATION .













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